INDEX

Cases: Page

Adams v. *Pease*, 2 Conn. 481 13
Barney v. *Keokuk*, 94 U.S. 324 ..... 11, 13, 14
Brosnan v. *Gage*, 240 Mass. 113 10
Coovert v. *O'Connor*, 8 Watts (Pa.) 470 10
Daniel Ball, The, 10 Wall. 557 ..... 2, 4, 12, 14
Egan v. *Hart*, 165 U.S. 188 5
Fulton L. H. & P. Co. v. *State of N.Y.*, 200 N.Y. 400 10
Hardin v. *Jordan*, 140 U.S. 371 10
Harrison v. *Fite*, 148 Fed. 781 3
Leovy v. *United States*, 177 U.S. 621 5–6
Montello, The, 20 Wall. 430 6
Oklahoma v. *Texas*, 258 U.S. 574 5
Pollard v. *Hagan*, 3 How. 212 14
Propeller Genessee Chief, The, v. *Fitzhugh*, 12 How. 443 ..... 11, 12
Shively v. *Bowlby*, 152 U.S. 1 10
Steamboat Thomas Jefferson, The, 10 Wheat. 428 9
Swift v. *Tyson* (*Erie R. Co.*) v. *Thompkins*, 304 U.S. 64 12
United States v. *California*, 332 U.S. 19 14
United States v. *Cress*, 243 U.S. 316 6
United States v. *Holt State Bank*, 270 U.S. 49 ..... 3, 5
United States v. *Texas*, 339 U.S. 707 11
United States v. *Utah*, 283 U.S. 64 ..... 3, 5, 7, 8, 12, 13, 15

422-487—71——1

Page

Statutes:
Submerged Lands Act, 67 Stat. 29 14
Lawes and Libertyes of Massachusetts (Cambridge, 1660), p. 50, reprinted in Massachusetts Colonial Laws (Boston, 1889), p. 170 10
Miscellaneous:
H. Rep. No. 215, 83d Cong., 1st sess 14
S. Rep. No. 133, 83d Cong., 1st sess 14, 15

In the Supreme Court of the United States

OCTOBER TERM, 1970

No. 31, Original

STATE OF UTAH, PLAINTIFF

v.

UNITED STATES OF AMERICA

REPLY BRIEF FOR THE UNITED STATES

1. Utah has filed a brief which reargues matters in issue before the Special Master, but not put before this Court. The United States did not except to any of the Master's factual conclusions, as such. Only two of its exceptions were to findings which the Master styled "Findings of Fact," and in each instance the gravamen of the exception was that the finding embodied an erroneous application of governing law—that is, that the finding was one of mixed law and fact, in which the law had been misdefined or misapplied. Since we accept the Master's findings of fact as such, all the discussion of our brief is based upon those findings and has reference to them. Utah, on the other hand, seeks to reargue the transcript and record before the Master, presenting to this Court as it presented to

him an advocate's view of what the proof entailed.[1] Particularly since Utah has filed no exceptions to the Master's Report, but rather "fully supports" it (Br. 129), its effort to have this Court reassess the weight of the evidence and similar matters, Br. 34–48, is out of place. There are, of course, responses which can be made to the characterizations which Utah has sought to place upon the record. The United States' view of that record was contained in its brief before the Special Master, and in light of the nature of Utah's argument in this Court, sixty copies thereof have been filed as a supplement to this reply brief. We believe, however, that the Court need not involve itself in these matters, but may restrict its consideration to the facts as found by the Special Master.

2. The United States believes that the facts found by the Special Master require the conclusion that the Great Salt Lake was *not* navigable in fact on the date of Utah's statehood, because the geographical characteristics of the Lake presented substantial obstacles that made it not susceptible of being used, in its "ordinary conditions," as a highway for commerce, trade and travel. *The Daniel Ball,* 10 Wall. 557, 563. If, as the Master found, such obstacles to use exist, it is irrelevant that they might be overcome by the

[1] For example, compare pp. 22–26 of Utah's brief with its proposed findings of fact, pp. 47–51 of its brief before the Master; and the Appendix "Summary of Evidence" pp. A–1 to A–26 with pp. 15–41 of the brief before the Master. The "Facts Showing Useful Navigable Capacity of Great Salt Lake," Br. 56–58, are all based on Utah's view of the transcript rather than the Master's findings.

dredging of lengthy channels or the building of enormous piers. A waterway, to be navigable, must "be of practical usefulness to the public as a public highway in its natural state and without the aid of artificial means." *Harrison* v. *Fite*, 148 Fed. 781, 783–784; *United States* v. *Utah*, 283 U.S. 64, 87; *United States* v. *Holt State Bank*, 270 U.S. 49, 56. Thus, we have excepted to Finding of Fact 31, which finds the Lake navigable, and to Finding of Fact 62, which appears to consider legally relevant the fact that the serious obstacles to commercial navigation on the Lake might be overcome by improvements such as dredged harbors (Finding of Fact 63(a)) if a commercial need arose.

There can be no doubt that the Master found serious obstacles to use of the Lake as a highway of commerce in its "ordinary conditions." "The Lake has throughout its perimeter, except in a few places, unusually gentle inclining shores." (Finding of Fact 8, R. 13). "The shore for the most part has a slope of less than one foot in 1,000 feet. A rise of a few feet in the water level will inundate great areas of land surrounding it, and a similar drop will leave large areas uncovered." (Finding of Fact 11, R. 17). "Except for an area at the southeastern shore * * * the Lake is surrounded by stretches of salt flats, marshes or bogs, some of which are in places several miles in width." (Finding of Fact 18, R. 21; see also Finding of Fact 26, R. 27). "The gradual shelving of the basin and the softness of the shore surface make it unusually difficult to get boats from dry land into floatable water. To reach water five feet deep, one must move

out a mile or more from the water's edge." (Finding of Fact 26, R. 25). "Convenient locations for launching and landing of boats are not to be found on the Lake." (*Id.*, R. 26).

Even if the water level of the Lake were stable, such facts—viewed against a history of non-use for commercial transportation (Finding of Fact 52, R. 44) and the extensive settlement of the Lake's environs (Finding of Fact 19, R. 21)—would show that the Lake did not meet the test of *The Daniel Ball*. But the level is not stable; in addition to its unpredictable rise and fall over the long term (Findings of Fact 13, 33, R. 18, 31–32), it experiences an average annual rise and fall of almost two feet (Finding of Fact 15, R. 19). While this variation seems negligible in its vertical dimension, it means a difference of over one-third of a mile in the location of the shoreline because of the gradual slope. A 4,000 ft. pier built out into the Lake in 1893 (Finding of Fact 21, R. 23) has long been "a desolate spot several miles inland" (Finding of Fact 61(c), R. 48; see also Finding of Fact 37, R. 35). The harbor which housed the dredges and boats for construction of the Southern Pacific Causeway, on which the State so heavily relies, required a channel two and one-half miles long to reach deep water; this was one of only two harbors on the Lake (Finding of Fact 39, R. 37–38). When such enormous piers or channels are required to reach floatable waters, and these in turn may be rendered useless by the "unpredictability of the Lake's level and waterline" (Finding of Fact 61(c), R. 48), then

it is established in our view that the "natural and ordinary condition" of the Lake is not such that it "affords a channel for useful commerce," *United States* v. *Holt State Bank, supra,* 220 U.S. at 56, whatever the capacity of the deep water of the Lake to float marine craft.

This is not a case like the prior *Utah* case, *supra,* "where conditions of exploration and settlement explain the infrequency or limited nature of [commercial] use." 283 U.S. at 82. The area near the Lake was already settled at statehood, and has been heavily populated ever since; but "Commerce and trade * * * has not flourished on the Lake," and future utilization not only awaits future demands, but also requires "future improvements." (Finding of Fact 62, R. 48–49). In this respect, the Lake more closely resembles a part of the Red River which this Court found not navigable in *Oklahoma* v. *Texas,* 258 U.S. 574, 589–591. In this portion of the river, water depths varied from six inches to three feet; the river had been used for light transportation, but was abandoned when alternate modes of transportation were available, and the Court concluded that it had insufficient capacity in its "natural and ordinary condition" for any but exceptional use. Similar depths—shallower than those found navigable in the prior *Utah* case and *Holt State Bank*—usually extend over a half mile from the Lake's shores (Findings of Fact 11, 25, R. 17, 26). The fact that a ditch may be dug through these shallows to alleviate the difficulty does not make the Lake navigable. *Egan* v. *Hart,* 165 U.S. 188, 193; *Leovy* v.

United States, 177 U.S. 621, 629; see also *The Montello*, 20 Wall. 430, 440–442; *United States* v. *Cress*, 243 U.S. 316, 321.

A lake circumscribed by such shallows, whose boundaries vary widely with slight variations in water level, does not lend itself to "commerce of a substantial and permanent character." *Leovy, supra*, 177 U.S. at 632. Indeed, the Master did *not* find that the Lake was actually in use as a highway of commerce on the date Utah was admitted to statehood. He bases his conclusion solely on a finding that the Lake was "capable,' or susceptible of such use (Finding of Fact 31, R. 29)—a finding which has not been borne out by experience in the seventy-five years of Utah's statehood and which is based in part on the erroneous view that the possibility of "future improvements" (Finding of Fact 62, R. 49) can contribute to navigability. While a number of boats have been used on the Lake, most were for brief periods of time and specific noncommercial purposes, such as construction of the railroad causeways; the number is slight in relation to the Lake's size, the population around it, and the time period involved.[2] "Not counting excursion trips, the

[2] Only seven of these boats could be thought to have been engaged in trade or travel in the customary mode of trade or travel on water; their trade was sporadic, their careers, short, and all disappeared from the Lake by 1888—well before Utah became a State and a time when the level of the Lake was substantially higher, and its shoreline more accessible, than it has been ever since. A complete listing and analysis of the boats on the Lake and their uses appears in the United States' brief before the Special Master, filed herewith, at pp. 10–20 and 43–64.

boating uses of the Lake have been more of a private nature rather than by independent contractors for hire" (Finding of Fact 51, R. 43). "There was no evidence to show that any regularly scheduled freight or passenger service operated on the Lake" (Finding of Fact 52, R. 44), again despite its extensive size, its mineral development, and the heavily populated areas near its shores. In these circumstances the susceptibility test of the prior *Utah* case does not apply.

We conclude that the Lake was not susceptible of use as a channel for useful commerce in its "ordinary conditions"[3] at Utah's statehood. In any event, the Master applied an erroneous test to the evidence in considering the possibility of "future improvements" and discounting the history of actual disuse as a channel of commerce and trade. Even if the United States were not entitled to judgment on the present findings, it would be entitled to have the evidence reconsidered in accordance with a proper view of the law applicable to the case.

3. The United States' second argument is that this Court should reconsider its unexplained holding in the prior *Utah* decision that title to the beds of intrastate as well as interstate waters passes to the States on statehood if the waters are navigable in fact. Utah devotes the great bulk of its brief to this

[3] It should be clear that the United States has never conceded this issue, as Utah claims at p. 8 of its brief. We have consistently acknowledged that large boats could float in the central deep waters of the Lake, but deny for the reasons set out above and in our main brief that this suffices to show the susceptibility of the Lake to support commerce.

contention, but in our view substantially misstates the issues and the underlying law.

a. The United States preserved the issue. At the outset of the hearing, in language which Utah has quoted but not chosen to italicize, Utah Br. 109, counsel for the United States stated:

> If that test [that it has to be interstate] was used in the Great Salt Lake, we would win right away because Great Salt Lake is entirely within one state. We assume—We don't insist upon that criteria, however, your Honor, but we would like it if your Honor would accept it. * * *

The reason for not insisting was that, in light of this Court's prior *Utah* decision, the Master had no authority to adopt that rule. Utah now suggests that it might have introduced evidence of the Lake's interstate navigability; but it would hardly have omitted such proof in showing intrastate navigability, and fails to suggest what the evidence might be. Compare Exh. P–32, p. 33.

b. Utah asserts that "the original states certainly had proprietary ownership of the beds of their navigable intrastate waters," Br. 127, and then argues on the basis of the equal footing doctrine that it too must be afforded that right.

If Utah is advisedly speaking of *proprietary* ownership, the doctrine of equality among the states has no application. At the formation of the Union, the original states had proprietary ownership of all vacant lands within their boundaries. But it could not be suggested that, for this reason, the equal footing doc-

trine entitled new states as they were formed to assume proprietorship of all their vacant lands, which until then had been held by the United States. The United States' proprietary interests in those lands continued. Similarly, while the original states may have had proprietary ownership of the *vacant* beds of fresh water navigable and non-navigable streams—and we show below that title to river-beds and lake-beds generally passed with title to riparian lands in the original states—it does not at all follow that the equal footing doctrine entitled new states to assume a proprietary interest in the beds of their navigable and non-navigable streams; those rights remained with the proprietor of the adjoining lands, which most often was the United States.

But Utah may be asserting that the original states had *sovereign* rights in the beds of their navigable intrastate waters. If this were true, then the equal footing doctrine would entitle Utah to similar rights in its waters—and that is the root of our argument. For Utah is entitled as a matter of inherent sovereign right to neither more nor less than the original states possessed in such right when they formed the Union. Utah Br. 86–89. And the original states had no sovereign interest in the beds of their navigable intrastate waters, unless such an interest was created by statute.

The common law at the time recognized sovereign ownership of underwater lands only in bodies of water affected by the tides. *The Steamboat Thomas Jefferson,* 10 Wheat. 428. Such bodies, if navigable, were necessarily interstate waters, permitting commerce to other states and to foreign nations to be carried upon them.

This Court twice pointed out that no more than three of the original States (Pennsylvania, Virginia and North Carolina) denied riparian owners their common-law right to the beds of navigable, non-tidal waterways. *Shively* v. *Bowlby*, 152 U.S. 1, 31; *Hardin* v. *Jordan*, 140 U.S. 371, 393 *et seq.* Massachusetts, which early passed a statute reserving the beds of *unappropriated* "great ponds" in common, Lawes and Libertyes of Massachusetts (Cambridge, 1660), p. 50, reprinted in Massachusetts Colonial Laws (Boston, 1889), p. 170, continued in the absence of statute to recognize private ownership of the beds of non-tidal, navigable streams, subject only to a right of passage. *Brosnan* v. *Gage*, 240 Mass. 113, 118. Similarly, public ownership of a river-bed in Pennsylvania depended on a prior declaration of its navigable status; where a grant or sale of the river-bed had been made before it was declared a public highway, the private ownership rights controlled. *Coovert* v. *O'Connor*, 8 Watts (Pa.) 470. Although Utah asserts the contrary (Br. 127), New York has always followed the common law rule of riparian ownership, subject to public rights of access and passage, save where specific exceptions were made. *Fulton L., H. & P. Co.* v. *State of N.Y.*, 200 N.Y. 400, 412–414.

As set out in our main brief, the public lands of the United States may be divested from it only as authorized by Congress or required by the Constitution. We do not believe Congress has acted in this case. And if the original states did not own the beds of their fresh-water rivers and lakes as a matter of inherent sovereignty, then the Constitution does not

require the United States to give up its ownership of similar underwater lands in order to give new states "equal footing." Like the dry lands which surrounded them, such lands would remain in the public ownership of the United States. To hold the contrary is to take the step which this Court refused in *United States* v. *Texas,* 339 U.S. 707, and to confer on the new states rights which the original states never enjoyed.

c. So far as lands underlying navigable waters of the United States—*i.e.,* waters forming part of a channel of interstate or foreign commerce—are concerned, application of the equal footing doctrine was required if only to promote uniform treatment of the lands underlying waters subject to federal regulatory jurisdiction. The initial expansion of the navigability concept occurred in the setting of federal maritime and commercial jurisdiction. In a land of great, interconnected rivers and lakes, it appeared to be unwarranted to base distinctions governing federal power on the extent of the tide's influence. *The Propeller Genesee Chief* v. *Fitzhugh,* 12 How. 433; *The Daniel Ball,* 10 Wall. 557. The Court easily made the transition to the proposition that ownership of the beds of waters "amenable to the admiralty jurisdiction," even though not tidal, "properly belongs to the States by their inherent sovereignty," *Barney* v. *Keokuk,* 94 U.S. 324, 338, albeit without considering that no such claim had been made by the original states. The result was that the consequences of federal navigability were uniform; the beds of all federally navigable waterways belonged, by inherent right, to the states.

No such uniformity was promoted, however, by the unexplained extension of that holding in the prior *Utah* case to lands which are not interconnected as part of a highway of interstate or foreign commerce. At least since the demise of *Swift* v. *Tyson* (*Erie R. Co.* v. *Tompkins,* 304 U.S. 64), the federal definition of what constitutes state navigable waters has become surplusage for all purposes other than the possible transfer of federal lands under the *Utah* rule. There are very few such waterways of any size. From the national perspective, the ownership of the beds of these bodies of water is a matter of indifference for any regulatory purpose; by definition, these bodies are not interconnected with routes of national or international trade subject to federal authority or protection, and the great insights of *The Daniel Ball* and *The Genesee Chief* do not apply. On the other hand, the *Utah* rule quite possibly promotes dispute, rather than quiet, on title issues. There are many smaller bodies of water, or portions thereof, which are arguably "susceptible" of use as a channel of intrastate commerce within the very permissive standards of the *Utah* holding. Separating title to the bed from title to the shores of such bodies is questionable public policy as well as unwarranted, as has been seen, by the equal footing doctrine.

d. The many consequences which the State supposes will follow from an overruling of the prior *Utah* decision are illusory. Rights of navigation and access would continue to be assured by the common-law easements which were and are the sole basis of state authority in most of the original states, and in the

many other states which follow the common-law rule and have conferred on riparian owners the title received from the United States upon statehood. See, *e.g.*, *Barney* v. *Keokuk*, *supra*; *Adams* v. *Pease*, 2 Conn. 481, 483–485. It is no more impractical for the states to control navigation over lands owned by the United States in its proprietary capacity than it is for the United States to exercise similar control over navigation on interstate waters, whose beds may be owned by the states. Since the underwater lands are not reserved as a matter of inherent sovereign right, a sale of the riparian lands would carry them with it or not according to the form of the sale, without regard to any doctrine of implied reservation. Against the possibility that overruling *Utah* might unsettle title on the few large bodies of intrastate navigable water must be balanced the uncertainty that would result in the probably greater number of bodies where navigability could be in dispute under the *Utah* rule. Again, we note that Utah's distress appears to be based on a faulty premise: the United States could not deny title to underwater lands which it had held in a purely proprietary capacity, if the form of sale of adjoining riparian lands was such as would ordinarily carry those lands with it; and except as to the largest bodies of water, in most states title to underwater lands passes into private hands whenever riparian lands are sold.

The governing consideration, in our view, is as Utah itself has stated. The State received from the United States at statehood only those underwater lands which corresponded to lands the original states possessed as

a matter of inherent sovereign right. The doctrine of equality among states entitled it to neither less nor more. And the original states' sovereign interest was limited to lands under waters affected by the tides or, at the very most, under waters which were a part of the great national system of commerce and trade.

e. There remains the question whether passage of the Submerged Lands Act has mooted the issue. That Act confirms in state ownership only those waters which are navigable "under the laws of the United States," and the question is whether, as we have asserted, Congress thus limited its action to the navigable waters of the United States, over which it frequently exercises its regulatory authority by the passage of national statutes, or whether it meant the phrase to encompass all waters navigable at common law, interstate or intrastate, under the test of *The Daniel Ball*.

The legislative history is not fully conclusive on the point. The House and Senate Reports on the Act reflect apprehension that this Court's ruling in *United States* v. *California*, 332 U.S. 19, might lead to an overruling of *Barney* v. *Keokuk* or *Pollard* v. *Hagan*, 3 How. 212, and a purpose to prevent any such development by confirming existing state title. *E.g.*, S. Rep. No. 133, 83d Cong., 1st Sess. 6–7 (1953); H. Rep. No. 215, 83 Cong., 1st Sess. 15 (1953). A Senate Minority Report, in particular, appears to have felt the legislation would also confirm the prior *Utah* decision, since it specifically mentions the Colorado River in that State. S. Rep. No. 133, *supra*, Pt. 2, at 18–19. And a letter written by the then Solicitor General, Philip

Perlman, in opposition to the grant of offshore lands, attached to the minority report as an appendix, assures that the government had no claims to inland navigable waters; the letter did not discriminate between intrastate and interstate navigability. *Id.* at 19–20; 21; 117; 119. While there was unanimity between the majority and minority reports on the desirability of confirming existing state title, however, it is also clear that Congress wished to bring about that confirmation on the assumption that title to the lands was in fact a matter of state right. There was no purpose to grant additional lands to the states in cases where, in Congress' view, the Constitution did not require it. And the reports do not focus particularly on the *Utah* principle as correct, or the subject of ratification by the Act.

The language of the statute itself is plausibly interpreted as referring to the concept with which Congress was most intimately familiar—the navigable waterways over which it possessed regulatory authority and to which the admiralty jurisdiction applied. If, as we have shown, the decision in the prior *Utah* case resulted from a misapplication of the equal footing principle, the language should be so interpreted in this case, and that decision should be overruled.

For these reasons and the reasons set forth in our principal brief, the Report of the Special Master should be revised, the Great Salt Lake should be found not to have been navigable on the date of Utah's admission to the Union, and judgment should be entered in favor of the United States; or else the

case should be remanded to the Master for reconsideration in accordance with this Court's opinion.

Respectfully submitted.

ERWIN N. GRISWOLD,
Solicitor General.

SHIRO KASHIWA,
Assistant Attorney General.

PETER L. STRAUSS,
Assistant to the Solicitor General.

MARTIN GREEN,
Attorney.

APRIL 1971.

U.S. GOVERNMENT PRINTING OFFICE: 1971

NOV 19 1971
MICHAEL RODAK, JR., CLERK

IN THE

Supreme Court of the United States

No. 31, Original

OCTOBER TERM, 1967

STATE OF UTAH, PLAINTIFF

v.

UNITED STATES OF AMERICA, DEFENDANT

REPORT OF SPECIAL MASTER

CHARLES FAHY,
Senior Circuit Judge,
Special Master.

CONTENTS

		Page
I.	Introduction	1
II.	Summary of Recommended Conclusions	4
III.	Federal Law Controls	5
IV.	History and General Characteristics of the Great Salt Lake	7
V.	Factual Characteristics of the Reliction Process	10
VI.	The Special Master is Unable to Find that the Exposure of the Bed of the Great Salt Lake June 15, 1967, the Date of the Quitclaim Deed, Had Come About by a Gradual and Imperceptible Process	14
VII.	The Rationales of Reliction, In Large Measure Those of Accretion, Are Not Supported By the Facts of the Present Case	20
	Findings of Fact	27
	Conclusions of Law	31
	Proposed Decree	32
	Appendix A	35
	Exhibits P-4, P-5, P-9, P-10, P-11, P-12, P-17, and D-2, D-3 and D-6 are reproduced following Appendix A.	

IN THE

Supreme Court of the United States

No. 31, Original

OCTOBER TERM, 1967

STATE OF UTAH, PLAINTIFF

v.

UNITED STATES OF AMERICA, DEFENDANT

REPORT OF SPECIAL MASTER

To the Chief Justice and Associate Justices of the Supreme Court of the United States:

I. INTRODUCTION

This Report of the Special Master is concerned with another stage of the controversy between the State of Utah and the United States over the ownership of certain land, and its content, within the surveyed meander line [1] of the Great Salt Lake.

[1] The meander line of the Great Salt Lake is the line duly surveyed prior to and in accordance with section 1 of the Act of June 3, 1966, 80 Stat. 192, which provides:

> That the Secretary of the Interior shall within six months of the date of the passage of this Act complete the public land survey around the Great Salt Lake in the State of

Pursuant to the terms of the Act of Congress of June 3, 1966, 80 Stat. 192, as amended, 80 Stat. 349, the Secretary of the Interior on June 15, 1967, by quitclaim deed conveyed to Utah all interests of the United States in these lands, including brines and minerals in solution in the brines, or precipitated or extracted therefrom,[2] conditioned upon payment by Utah to the United States of the market value of the interests covered by the deed should it be determined that they actually belonged to the United States. To have that question judicially determined Utah adopted one of the alternative courses authorized by the Act by filing this original suit in the Supreme Court seeking a decree to quiet its title as against the United States to the lands and content in dispute. See section 5(b) of the Act.

Several phases of the over-all controversy have been decided by the Court. In *Utah* v. *United States*, 394 U.S. 89 (1969), the Court denied intervention of a private claimant, Morton International, Inc., approving the recommendation of the late Senior Circuit Judge J. Cullen Ganey, Special Master. In *Utah* v. *United States*, 403 U.S. 9 (1971), again on the basis of the Report of Judge Ganey, the Court held that the Lake was navigable when the State of Utah was admitted to the Union on January 4, 1896, and that, as a consequence, under the equal-footing doctrine,[3] title to the bed of the Lake at state-

---

Utah by closing the meander line of that Lake, following as accurately as possible the mean high water mark of the Great Salt Lake used in fixing the meander line on either side of the unsurveyed area.

[2] When "land", "lands", "bed of the Lake" appear in this Report to describe the interests involved the words are used to include the brines and minerals in solution in the brines or precipitated or extracted therefrom.

[3] *Pollard's Lessee* v. *Hagen*, 44 U.S. (3 How.) 212, 221-23, 228-30 (1845); *Bonelli Cattle Co.* v. *Arizona*, 414 U.S. 313

hood vested in Utah. Thereupon the Court, in *Utah* v. *United States*, 406 U.S. 484, entered its decree of May 22, 1972, in the form of an injunction against the United States, but in substance quieting in Utah, as against the United States, the title to the bed of the Lake lying below its water's edge on June 15, 1967, the date of the quitclaim deed, with exceptions not now material, and to the natural resources and living organisms therein or extracted therefrom. The Court also held that Utah is not required to pay the United States for the interests thus described in the decree.

The decree of May 22, 1972, by its paragraph 3, brings us to the present problem. It provides as follows:

> 3. The basic question yet to be determined in this case is whether prior to June 15, 1967, the claimed doctrine of reliction applies and, if so, whether the doctrine of reliction vests in the United States, and thus divests the State of Utah, of any right, title or interest to any or all of the exposed shorelands situated between the water's edge on June 15, 1967, and the meander line of the Great Salt Lake as duly surveyed prior to or in accordance with § 1 of the Act of June 3, 1966, 80 Stat. 192. A Special Master will be appointed by the Court to hold such hearings, take such evidence and conduct such proceedings as he deems appropriate and, in due course, to report his recommendations to the Court.

406 U.S., at 484-5. Judge Ganey in the meantime having died the Court appointed the present Special Master, with the authority thus noted. 406 U.S. 940 (1972).

(1973). Under this doctrine, in the absence of a congressional condition to the contrary, a State, upon its admission to the Union, acquires title to the bed of navigable waters within the State, as had the thirteen original colonies as successors to the rights of the British Crown.

Not at issue in this litigation are the claims of private persons, vendees and patentees, to about 275,000 acres adjacent to the Lake.

Following the decree of May 22, 1972, the parties engaged in a cooperative and successful effort to clarify and delineate the issues now considered. This was followed by a hearing before the Special Master at the United States Court House in the District of Columbia on February 27, 1973, at which a large number of exhibits were introduced in evidence, and oral testimony adduced. The exhibits incorporate detailed factual data regarding the Lake and its history, the accuracy of which is accepted by the parties.[4] Briefs followed and the case was taken under submission on October 25, 1973, for preparation of this Report. As it was nearing completion, however, the Court decided *Bonelli Cattle Co.* v. *Arizona*, 414 U.S. 313 (1973), following which the parties have advised the Special Master of their views as to the bearing of *Bonelli* upon this case.

It is now important to note that, in accordance with the desire of both the United States and Utah, the basic question now considered is limited to whether the doctrine of reliction divested Utah of title to that part of the bed of the Lake at statehood which on June 15, 1967, the date of the quitclaim deed, had become exposed by recession of the waters of the Lake, comprising some 325,000 acres. *Infra*, p. 24. The title to any upland between the bed of the Lake at statehood and the meander line is not now considered, the positions of the parties in that regard being reserved pending the answer to the above question.

II. Summary of Recommended Conclusions

The Special Master recommends that the Court hold that the State of Utah has not been divested by reason

[4] Reproduced as part of this Report are Plaintiff's Exhibits 4, 5, 9, 10, 11, 12 and 17, and Defendant's Exhibits 2, 3 and 6. The originals of all the Exhibits are on file with the Clerk of the Court.

of the doctrine of reliction of any right, title or interest to that part of the bed of the Great Salt Lake acquired by it at statehood which had become exposed by recession of the waters of the Lake to June 15, 1967; that Utah is entitled to a decree quieting its title as against the United States to the area thus described insofar as any claim thereto by the United States rests upon the doctrine of reliction; and that no compensation is due from the State of Utah to the United States under the Act of June 3, 1966, for said area.

III. Federal Law Controls

Under the recent decision of the Court in *Bonelli*, *supra*, it seems clear that federal law governs the decision of this case. The land, title to which was in dispute in *Bonelli*, abutted the Colorado River, a navigable stream. Title to the bed of the river had been acquired by Arizona at statehood under the equal-footing doctrine. The riparian owner, Bonelli Cattle Company, held title which stemmed from a federal patent.[5] Prior to the litigation the river by erosion had inundated part of the Bonelli land, thus extending the river bed eastward. Thereafter the United States, with the acquiescence of Arizona, rechanneled the river for navigational purposes and caused the eroded area to be reexposed. Bonelli Cattle Company as the riparian landowner claimed the exposed area under the doctrine of accretion. The Court held that this question was to be decided under the federal common law of accretion, not under state law. It follows, in the view of the Special Master, that the related question of reliction as now presented must also be decided under federal

---

[5] In *Bonelli* the claimant against the State under the doctrine of accretion held title under a federal patent to a predecessor in title; but it was not clear whether the land covered by the patent was riparian at the date of the patent. *See* 414 U.S. at 321, n.11.

law. As with respect to Arizona in *Bonelli*, so with respect to Utah now, the title of each State accrued under the equal-footing doctrine, and the riparian owner in each case claims title to the upland under the United States.

The Court held in *Bonelli:*

> We continue to adhere to the principle that it is left to the States to determine the rights of riparian owners in the beds of navigable streams which, under federal law, belong to the State. But this doctrine does not require that state law govern the instant controversy. The issue before us is not what rights the State has accorded private owners in lands which the State holds as sovereign; but, rather, how far the State's sovereign right extends under the equal-footing doctrine and the Submerged Lands Act—whether the State retains title to the lands formerly beneath the stream of the Colorado River or whether that title is defeasible by the withdrawal of those waters. As this Court observed in *Borax, Ltd.* v. *Los Angeles*, 296 U.S. 10, 22 (1935): "The question as to the extent of this federal grant, that is as to the limit of the land conveyed, . . . is necessarily a federal question. . . . [I]t involves the ascertainment of the essential basis of a right asserted under federal law."

414 U.S. at 319-20.

While the United States is free to adopt or to acquiesce in the application of state law even though otherwise federal law would govern,[6] the Court in *Bonelli* held that it had not done so by the Submerged Lands Act, 43 U.S.C. §§ 1301, *et seq.*, so holding in terms which the Special Master considers applicable as well to the present case:

---

[6] *United States* v. *Oregon*, 295 U.S. 1, 28 (1935); *Hughes* v. *Washington*, 389 U.S. 290, 292-93 (1967).

> The [Submerged Lands] Act did not abrogate the federal law of accretion, but defined lands beneath navigable waters as being those covered by streams as "hereafter modified by accretion, erosion, and reliction." . . . Since the Act does not extend to the States any interest beyond those afforded by the equal-footing doctrine, the State can no more base its claim to lands unnecessary to a navigational purpose on the Submerged Lands Act than on that doctrine. (Footnote omitted.)[7]

414 U.S. at 324-25.

IV. History and General Characteristics of the Great Salt Lake

The Report of Special Master Ganey, filed October 26, 1970, contains in considerable detail the history and characteristics of the Lake. These are now outlined, beginning with the testimony before the present Special Master on February 27, 1973, of Mr. Theodore Arnow,[8] a joint expert witness. He described the Lake as located entirely within Utah and as a remnant of the ancient Bonneville Lake, one of the last major lakes formed in geological time in the Great Basin.[9] Before it began to dry

---

[7] By analogous reasoning the reliance of the State upon the Rules of Decision Act, 28 U.S.C. § 1652, cannot be accepted as a basis for applying state law in light of *Bonelli*, all else aside. It was not applied in either *Hughes* v. *Washington*, *supra*, or *Bonelli*.

[8] Mr. Arnow is the District Chief of the Water Resources Division of the Geological Survey in Utah charged with the responsibility of gathering statistical data regarding the Lake.

[9] The Great Basin is located in Western Utah, most of Nevada and smaller parts of other States. Although the climate in the Great Basin is now arid with less precipitation than evaporation, many centuries ago the climate was more humid so that lakes which formed there would in alternate periods dry up and then form once again.

up over 20,000 years ago Lake Bonneville covered approximately 35,000 square miles, about the size of Lake Superior and twenty times the area of the Great Salt Lake. The Great Salt Lake is about 70 miles long and 30 miles wide, with a volume of 15,000,000 acre-feet covering about 1,650 square miles. Its maximum depth is 34 feet. The Lake is surrounded by very flat shorelands except where mountain ranges project upward through the water.[10] The flat shorelands are vast mud flats barren of any vegetation due to the high salinity of the Lake, and are used for nothing except recreation and as evaporation ponds for extracting minerals and salts. (Tr. 33.) A visual illustration of the general nature of the mud flats can be obtained from Exhibit P-6 which contains twelve color photographs of the shore as it appeared on February 12, 1972, when covered with snow. The Exhibit also contains twenty-four black and white photographs showing the mud flats as they appeared on October 26, 1972, with no snow. Both sets of photographs contain maps showing the location of each photograph and a description of the view illustrated.

The Lake has no outlet and thus no way of discharging the water which it receives by the inflow of tributary streams and by precipitation. The water level also is influenced by man-made interferences with the rate of inflow.[11] The only "outflow" from the Lake is by evaporation. (Tr. 36.)

---

[10] Judge Ganey's Report filed October 26, 1970, states in his Finding No. 18, p. 21, in part as follows:

> Except for an area at the southeastern shore near the base of the Oquirrh Mountains, where the beaches are located, the Lake is surrounded by stretches of salt flats, marshes or bogs, some of which are in places several miles in width. (Footnote omitted.)

[11] Exhibit P-18 demonstrates that the Lake would be at a higher vertical elevation if man had not interfered with the

The rate of evaporation and the resulting changes in the elevation of the Lake depend upon wind, temperature, salinity of the water and the surface area of the Lake, which is affected by the rate of tributary inflow and the degree of salinity. The periods of maximum inflow, the late fall and the spring, precede the period of maximum evaporation, during the summer. The Lake is continually fluctuating due to these interrelated factors.

Records of the Lake were kept first by the Mormons who arrived in the area in 1847, Mr. Arnow continued. At that time the elevation of the Lake was approximately 4200 feet above sea level.[12] Exhibit P-4. At statehood in 1896 the elevation of the Lake was 4200.2 feet. In February, 1973, at the time of the hearing before the Special Master, the elevation was approximately 4200 feet, within a few inches of the statehood figure. (Tr. 37-38; Exhibit P-4. And see Tr. 18; Post-Trial Brief of United States, p. 19, n.13.) Therefore, in February, 1973, the relation of the waters of the Lake to the adjoining shorelands was about as it was at statehood, quite different from what it was on June 15, 1967, the date of the quitclaim deed.

Since statehood the Lake has fluctuated as much as thirteen feet from a high of 4205 feet in 1924 to a low of 4192 feet in 1963.[13] The fluctuations have followed no set pattern on either a long range or short range basis, whether measured at five year intervals, one year inter-

---

natural rate of inflow. However, this does not change the nature of the fluctuations of the water level which would still fluctuate as dramatically and frequently but at a higher elevation.

[12] In noting at different places in this Report the level or elevation of the Lake the numerals in each instance refer to "above sea level."

[13] The Lake reached its highest elevation in 1873, prior to statehood, when its level rose to 4212 feet. *See* Exhibit P-4.

vals, six month intervals, monthly intervals, or even daily or hourly intervals. See Exhibits P-8—P-17.

Special reference is made by the Special Master to the map marked as Exhibit D-2. The area of the bed of the Lake exposed between statehood and the date of the quitclaim deed is shown in the dark shading, dark blue in the original. The large light area represents the bed at the date of the quitclaim deed, light blue in the original. The area between the bed of the Lake at statehood and the surveyed meander line is the exterior medium shading, green in the original.

V. Factual Characteristics of the Reliction Process

The land of a riparian owner may be affected by the action of the water by avulsion, erosion, accretion and reliction. Neither avulsion nor erosion is involved. The former occurs when there is a sudden or violent change in the course of a stream, in which event the title lines remain as before. *County of St. Clair* v. *Lovingston*, 90 U.S. (23 Wall.) 46, 68 (1874); *Philadelphia Co.* v. *Stimson*, 223 U.S. 605, 624-25 (1912); *Bonelli*, *supra*, 414 U.S. at 327. Erosion is the gradual washing away of land by the water, thus extending its bed and simultaneously contracting the riparian land. See *Arkansas* v. *Tennessee*, 246 U.S. 158, 173 (1918); *United States* v. *461.42 Acres of Land*, 222 F.Supp. 55 (N.D. Ohio, 1963).

At common law accretion was the enlargement of the riparian land by the action of the water in gradually and imperceptibly depositing soil. See *Mississippi* v. *Arkansas*, — U.S. — (February 26, 1974). Reliction had this common characteristic of a gradual and imperceptible change in the relation of the water to the land, but by uncovering existing land rather than, as in accretion, depositing additional soil. The Court in *Bonelli* affirmed these characteristics of accretion and reliction:

> Federal law recognizes the doctrine of accretion whereby the "grantee of land bounded by a body of navigable water acquires a right to any natural and gradual accretion formed along the shore." *Hughes* v. *Washington*, 389 U.S. 290, 293 (1967); accord, *Jones* v. *Johnson*, 18 How. 150, 156 (1856). When there is a gradual and imperceptible accumulation of land on a navigable riverbank, by way of alluvion or reliction, the riparian owner is the beneficiary of title to the surfaced land:
>
> > "It is the established rule that the riparian proprietor of land bounded by a stream, the banks of which are changed by the gradual and imperceptible process of accretion or erosion, continues to hold the stream as his boundary; if his land is increased he is not accountable for the gain, and if it is diminished he has no recourse for the loss." *Philadelphia Co.* v. *Stimson*, 223 U.S. 605, 624 (1912).

414 U.S. at 325-26.

As had been stated in *Hughes* v. *Washington*, *supra*, 389 U.S. at 293, land gained by accretion is "by little and little, by small and imperceptible degrees," and belongs to the riparian owner. The Court continued:

> The Court has repeatedly reaffirmed this rule, *County of St. Clair* v. *Lovingston*, 23 Wall. 46 (1874); *Jefferis* v. *East Omaha Land Co.*, 134 U.S. 178 (1890), and the soundness of the principle is scarcely open to question. Any other rule would leave riparian owners continually in danger of losing the access to water which is often the most valuable feature of their property, and continually vulnerable to harassing litigation challenging the location of the original water lines. (Footnote omitted.)

The earlier English case of *The King* v. *Lord Yarborough*, 107 Eng.Rep. 668 (K.B. 1824), states the common law principle. The claim was that the land in dispute "being slowly, gradually, and by imperceptible increase, in long time cast up, deposited, and settled by and from the flux and reflux of the tide and water of the sea"

upon the "extremity of the demesne lands of the manor, [the projection] hath been formed, and hath been settled, grown, and accrued upon . . . the demesne lands. . . ." *Id.* at 673.

The court there held,

> It is clear upon the evidence, that the land has been formed slowly and gradually in the way mentioned in the plea . . . [a]nd considering the word "imperceptible" in this issue, as connected with the words "slow and gradual," we think it must be understood as expressive only of the manner of the accretion, as the words undoubtedly are, and as meaning imperceptible in its progress, not imperceptible after a long lapse of time. . . .

Id. at 674.

It is interesting to compare this statement of 1824 with that of the Supreme Court of Utah in 1971 in *Utah* v. *Hardy*, 26 Utah 2d 143, 486 P.2d 391. Although Utah law does not govern this case, the United States in its brief before the Special Master recognizes that the opinion of the Supreme Court of Utah defines reliction "in terms perfectly consonant with the federal common law":

> The doctrine of "reliction" in the law covers the situation involving the title to the land which emerges from beneath a body of water caused by a recession of the waters. The law of reliction is generally the same as that of accretion as it concerns contiguity, imperceptibility and naturalness of the process of the water's recession and the exposure of additional land. The law of reliction, as well as accretion, has evolved over a long period of time and is based upon the rights of a riparian owner to have access to the water adjacent to his property.

26 Utah 2d at 144-45, 486 P.2d at 392-93. The court held, however, after reviewing the "unique and special conditions" affecting Great Salt Lake,

> . . . that the recession of the waters from the land [there in question] has not been natural, gradual

> and imperceptible, and that the doctrine of reliction should not be applied.

26 Utah 2d at 145, 486 P.2d at 393.

It is now clear, however, from *Bonelli* that under federal common law though accretion may occur as formerly by the gradual and imperceptible process which evolved under the non-federal common law, it may also occur in a perceptible manner at least where the owner of the bed of the navigable water is a State which acquired title to the bed under the equal-footing doctrine. In this regard the Court in *Bonelli* holds:

> The [earlier] advance of the Colorado's waters divested the title of the upland owners in favor of the State in order to guarantee full public enjoyment of the watercourse. But, when the water receded from the land, there was no longer a public benefit to be protected; consequently, the State, as sovereign, has no need for title. That the course of the recession was artificial, or that the rate was perceptible, should be of no effect.[14]

414 U.S. at 323-24.

---

[14] We have seen that some decisions refer to accretion or reliction as an addition to land by natural causes:

> A long and unbroken line of decisions of this Court establishes that the grantee of land bounded by a body of navigable water acquires a right to any natural and gradual accretion formed along the shore.

Hughes v. *Washington*, *supra*, 389 U.S. at 293; *and see Jones* v. *Johnston*, 59 U.S. (18 How.) 150, 158 (1856), both referred to in *Bonnelli*, 414 U.S. at 325; *Utah* v. *Hardy*, *supra*, 26 Utah 2d at 144-45, 486 P.2d at 392-93. *But see County of St. Clair* v. *Lovingston*, *supra*, also cited in *Bonelli* at 327. In the present case, according to the testimony of Mr. Arnow, supported by reference to Exhibit P-18, the following appears:

> . . . the lake would have been 3.7 feet higher at the time of statehood if it weren't for the activities of man in the basin. . . . [C]arrying it through 1967. . . . the difference

Postponing for consideration under Part VII, *infra*, the view of the Special Master that a reasonably permanent or stable result of the process is essential to a finding of reliction, and recognizing that under *Bonelli* reliction, as accretion, may at times occur perceptibly, it seems appropriate first to consider the claim of the United States that the recession of the Lake as of June 15, 1967, the date of the quitclaim deed, had occurred by the "little by little" or gradual and imperceptible process, and for that reason Utah had lost the area in question to the United States under the reliction doctrine.

VI. The Special Master is Unable to Find that the Exposure of the Bed of the Great Salt Lake June 15, 1967, the Date of the Quitclaim Deed, Had Come About by a Gradual and Imperceptible Process

The term "fluctuations" is used herein to mean, unless otherwise indicated, the reactions of the waters of the Lake, aside from responses to the wind, to changes in the elevation or level of the Lake. The United States points out that the Lake experiences three general types of fluctuations, annual, seasonal and daily. Upon this factual basis the United States centers its claim that reliction accounts for the exposure of the shorelands between statehood and June 15, 1967, since, it is said, only the annual fluctuation reflects a change in the ordinary high water mark, which, according to the United States, is that boundary subject to modification by reliction. Thus, we

---

is . . . 5.28 feet higher in 1967 than it actually was, if it weren't for the activities of man.

(Tr. 44.) Except for these activities the bed of the Lake would not have been exposed as of June 15, 1967 to the extent this had occurred. The State of Utah, however, has not pressed before the Special Master reliance upon the effect due to the activities of man.

are urged to look only to annual "fluctuations" of the level of the Lake, for daily fluctuation allegedly is caused by the wind and is not a change in the level of the Lake, and seasonal fluctuation recurs each year in essentially the same pattern. Exhibit P-4. On the other hand, the annual change is a product of every physical factor affecting the level of the Lake, see pages 8-9, *supra*, and is measured, according to the United States, by differences in the "average yearly stage" of the Lake, which is the average of the levels of the Lake at regular intervals over a 12-month cycle. Exhibit D-6.

Therefore, the United States continues, the "average yearly stage" of the Lake is the proper standard for measuring the level of the Lake. This "average annual change" since statehood has generally been less than 1 foot per year. However, since some of the shorelands are extremely flat, the water moves almost in a horizontal direction and a small change in the level of the Lake can inundate or expose hundreds of feet of shoreland. Thus, the annual average change in level of only .69 feet (8.28 inches) would expose or inundate about 50,000 acres of shoreland. Exhibit P-5. The shoreline of the Lake is 350 lineal miles, with the result, it is said, that an average annual movement along the shore is less than 1200 feet, barely 3 feet per day or a little over 1½ inches per hour. The United States accordingly concludes that such a movement is not humanly perceptible as it occurs, adding, "[n]one of the changes in the level of the Great Salt Lake have been of so sudden or violent a character as to be perceptible while the process was going on." Exhibits P-18, D-4.[15]

It should be noted that in distributing the 50,000 acres of shoreland among the 350 lineal miles consideration was

[15] According to the United States the most extreme change in the boundary occurred between 1906 and 1907 and amounted to less than 15 inches per hour.

not given to the fact that the shorelands are not uniformly affected by change in the level of the Lake. The flat shorelands surrounding the Lake are interrupted at different points by small mountain ranges set back at varying distances from the shoreline. For example, on the north side of the Lake the Promontory Mountains form a headland of about 30 miles long which juts southward in toward the center of the Lake. See Exhibit P-1. In the southeastern sector of the Lake rise the Oquirrh Mountains and the Stansbury Mountains. Several mountain clusters also exist within a few miles of the western shore of the Lake. Among these are the Lakeside Mountains and Terrace Mountains. The eastern and northwest shorelands of the Lake, however, are almost entirely dominated by salt and mud flats. See Report of Special Master Ganey, October 26, 1970, at 10-13; Exhibit P-1. The various mountain ranges form an irregular barrier to a uniform spread of the water when the Lake is on the rise. Mr. Arnow refers to differences in consequence of a change of 5 feet in the Lake elevation. For instance, at those points on the west side where the flat shorelands dominate, water could rush inland for 7½ miles, whereas such a change would cause "very little change—no change" where the mountains are.[16] (Tr. at 34.)

The movements of the water during any year, and the resulting exposure or inundation of the shorelands, are not mirrored in the annual averages. Thus, an examina-

---

[16] When the United States speaks of an average movement along the shore of a little more than 1½ inches per hour there is not reflected the fact that the Lake's movement along that part of its shoreline where mountains rise is less than where there are vast stretches of flat land where the water can rush overland almost unimpeded. Utah, however, does not discuss this inaccuracy, as it seems to the Special Master, in the United States' calculations.

tion of Exhibits P-9 and P-10 [17] discloses that the elevations of the Lake on June 1 and November 1, from 1850 to 1972 [18] generally ranged between one and two feet within a six-month span, exposing or inundating about 50,000 to 150,000 acres of the shallow mud flats. However, the yearly average of these movements is not their visual movements. Changes in elevation may be gradual and imperceptible but are only a part of a process the whole of which includes the effect upon the shorelands of such changes. If the effect on the shorelands is not imperceptible then the whole of the process is not imperceptible within the meaning of the doctrine of reliction.

The fluctuations at monthly intervals from 1896 to February 1, 1973, are shown on Exhibits P-11 and P-12. Changes in elevation are noted on the former. The latter translates those changes into acreage of shorelands affected. Study of these Exhibits together with Exhibits P-13 and P-14,[19] and using as illustrative the period from November 1, 1970 to June 15, 1971, shows that the rise in the level of the Lake flooded over 450,000 acres of the flat shorelands, followed by a recession for three and a half months, leaving inundated about 175,000 acres, rising again to inundate some 380,000 acres in the following seven and a half months. The Lake then receded for four and a half months, leaving inundated some 200,000 acres.

Exhibit P-16 charts the fluctuations for June, 1967. On June 6, for example, the level of the Lake rose and fell 10 times. When these actual fluctuations are averaged, however, the net change is zero. For ten days just

---

[17] The data contained in the Exhibits are based on undisputed gauge recordings.

[18] Only to June 1, 1972

[19] Exhibits P-13 and P-14, however, are limited to monthly intervals from 1955 through February 1, 1973.

prior to June 15, 1967, the date of the quitclaim deed, the major fluctuations in elevation ranged between 3 and 6 inches, inundating or exposing between 10,000 and 20,000 acres with each fluctuation.[20]

If the actual change since statehood in the relation of the waters of the Lake to the adjoining land had been as calculated by the United States, only a little over 1½ inches per hour,[21] the position of the United States that the process has been imperceptible would be substantial, but this statement of the rate of change in the relation of the water level to acreage affected does not reflect the actual changes as they occurred. Changes in the level of the Lake are gradual. However, the imperceptibility feature of reliction is to be judged according to the actual effect on the shorelands of such a change. The unique nature of the area causes a gradual and slight change in the elevation of the Lake to result in a much greater alteration of the relation of the water to the land. This is demonstrated by the statistical data which has been charted from the records, partially analyzed above and more fully disclosed by the Exhibits which chart more fully the constant movements of the waters and the ef-

---

[20] The above are a few of many detailed records which have been graphed and charted upon Exhibits placed in the record. Similar chartings of daily and hourly fluctuations in elevation and accompanying effect on acreage are available in the Exhibits, although only some of those specifically referred to are reproduced in this Report. The Special Master does not understand that either the United States or Utah challenges the accuracy of any of the Exhibits, but only their significance on the imperceptibility issue, or, stated otherwise, only their significance on the issue of reliction. There is appended to this Report as Appendix A, calculations of the movements of the Lake by periods which have been compiled by the Special Master from the Exhibits. These calculations were approved by the parties with slight modifications.

[21] *See* p. 15, *supra*.

fect of these on the land, annually, seasonally, monthly, daily and hourly.

To place the matter thus disclosed in a light most favorable to the United States is to consider what may be referred to as the net result of the movements of the Lake over a substantial period of time. For example, in the ten years from about 1953 to 1963 (see Exhibits P-12 and D-6), the general movement, due to lowering of the elevation of the Lake, was a recession of its waters from the shorelands, accompanied, however, by rather constant fluctuations up and down, as it were, as the general recession continued. At the end of the period there was a very perceptible area which had become exposed during the period, but perhaps there had been at no particular moment a separate perceptible component of this total movement of exposure. To accept this, however, as meeting the imperceptible element of reliction, would in the view of the Special Master be an adaptation of that element of the doctrine to the unique character of the Great Salt Lake rather than to apply the imperceptible element as it has developed in the law. While there are indeed features in the over-all process and its result, thus described, which arguably favor the Court's acceptance of the imperceptible element of the doctrine, nevertheless the continued rise and fall of the elevation of the Lake on an hourly, daily and weekly basis, is unprecedented in the historical development and previous application of this element of the doctrine. This of course is due to the unique character of the area, with the erratic movements of the Lake over the land, almost constantly responding in exaggerated reflexes to slight alterations in the level of its surface.[22] The unique situ-

[22] The effect of the wind should also be mentioned. Mr. Arnow testified: ". . . we have a pile-up of two feet of water in the first few hours of a storm. And if the wind will persist steadily for a period of days in the same direction, the

ation resists doctrinaire classification. The perceptible net or residual change after a passage of time in the relation of the water to the land, due either to recession or progression of the water, may often be obscured as it occurs by the constant fluctuations of the water. The Special Master, however, is unable to find that the recession of the Lake to its level of June 15, 1967, occurred in a gradual and imperceptible manner.

Moreover, and importantly, even were the recession to June 15, 1967, gradual and imperceptible, the relation of the water to the shorelands at that date was not of the reasonably permanent or stable character essential, in the view of the Special Master, to application of the doctrine of reliction, a matter to be more fully discussed.

VII. The Rationales of Reliction, In Large Measure Those of Accretion, Are Not Supported By the Facts of the Present Case

1. It seems desirable to round out the rationales of the doctrine, with special reference to the Court's treatment of accretion in *Bonelli*. The Court summarized the reasons underlying the common law doctrine as follows:

> First, where lands are bounded by water, it may well be regarded as the expectancy of the riparian owners that they should continue to be so bounded.[21] Second, the quality of being riparian, especially to navigable water, may be the land's "most valuable feature" and is part and parcel of the ownership of the land itself. *Hughes* v. *Washington*, *supra*, at 293; *Yates* v. *Milwaukee*, 10 Wall. 497, 504 (1871). Riparianness also encompasses the vested right to

---

water level is pushed up ½ a foot and will stay half a foot higher for several days." (Tr. 47.) Also, "the higher the wind the higher the evaporation," and "the higher the temperature the higher the evaporation."

future alluvion, which is an "essential attribute of the original property." *County of St. Clair* v. *Lovingston*, 23 Wall. 46, 68 (1874). By requiring that the upland owner suffer the burden of erosion and by giving him the benefit of accretions, riparianness is maintained. Finally, there is a compensation theory at work. Riparian land is at the mercy of the wanderings of the river. Since a riparian owner is subject to losing land by erosion beyond his control, he should benefit from any addition to his lands by the accretions thereto which are equally beyond his control. *Ibid.* The effect of the doctrine of accretion is to give the riparian owner a "'"fee, determinable upon the occupancy of his soil by the river," and [to afford] the State [a title] to the river bed [which is] likewise a . . . "qualified" fee, "determinable in favor of the riparians upon the abandonment of the bed by the river."'"[22]

[21] [Omitted.]

[22] 107 Ariz., at 472, 489 P.2d, at 706 (Lockwood, J., dissenting), quoting, *State* v. *R.E. Janes Gravel Co.*, 175 S.W.2d 739, 741 (Tex.Civ.App. 1943), rev'd on other grounds *sub nom. Maufrais* v. *State*, 142 Tex. 559, 180 S.W.2d 144 (1944).

414 U.S. at 326.

Reverting to the factual situation in *Bonelli*, the Court pointed out in addition that the riparian owner, "because of the navigational servitude" is at the mercy of "governmental forces which may similarly affect the riparian quality of his estate":

> Accordingly, where land cast up in the Federal Government's exercise of the servitude is not related to furthering the navigational or related public interests, the accretion doctrine should provide a disposition of the land as between the riparian owner and the State. See *Michaelson* v. *Silver Beach Assn.*, 342 Mass. 251, 173 N.E.2d 273 (1961).

414 U.S. at 329.

The navigational and related public interests of a State have required that a State retain title to and con-

trol of navigable waterways as an element of its sovereignty. This has proved historically necessary because,

> " 'Such waters . . . are incapable of ordinary and private occupation, cultivation and improvement; and their natural and primary uses are public in their nature, for highways of navigation and commerce, domestic and foreign, and for the purpose of fishing. . . .' *Shively* v. *Bowlby*, *supra*, at 11."

414 U.S. at 322.

However, once the rechannelization project was accomplished the land exposed as a consequence, formerly part of the riverbed, was "no longer . . . incapable of ordinary and private occupation . . ." and there was, as well, "no longer a public benefit to be protected; consequently, the State, as sovereign, had no need for title." 414 U.S. at 323-24. Thus, *Bonelli* supplements the traditional doctrine of accretion by requiring an appraisal of the state interests affected by the exposure, compared with the interests of the riparian owner.

2. The foregoing considerations underlying the doctrine of accretion, and, insofar as the facts of the present case permit, the doctrine of reliction, subsume, in the view of the Special Master, a reasonable permanence or stability in the change which has occurred in the relation of the water to the land. The United States in its brief before the Special Master urges that a more precise statement would be that the land formation must be "not clearly temporary." The situation in *Bonelli* created by the channeling project was "not clearly temporary." Indeed it was of a permanent character.

The generally uniform characterization of the common law doctrine of reliction and accretion has always seemed to contemplate a result substantially permanent; thus, the land "hath been formed, and hath been settled, grown and accrued," the language of *The King* v. *Lord Yarborough*, *supra*. The omission of the case law to refer

uniformly to permanence is understandably due to this quality being implied as a result of the gradual and imperceptible process. The situation should be no different where the claim rests upon a process which may have been perceptible. Both accretion and reliction involve an addition to the riparian land, ordinarily by a deposit of soil in the case of accretion, by the exposure of land previously under water in the case of reliction. The factor of "addition" implies reasonable stability or permanence. The criterion of "little by little, by small and imperceptible degrees," *Jones* v. *Johnston, supra*, 59 U.S. at 156, had reference to "land gained from the sea," which implicitly assumes something more than a temporary condition of the "soil that had gradually been deposited." In *Sapp* v. *Frazier*, 51 La.Ann. 1718, 26 So. 378 (1899), it was said that ". . . 'reliction' is land added to a front tract by the permanent uncovering of the waters," and ". . . as used by the English law, [it] meant when the sea shrank back below the usual watermark, and remained there." 26 So. at 380. *State* v. *Longyear Holding Co.*, 224 Minn. 451, 29 N.W.2d 657 (1947) is to the same effect:

> It is also clear that before a riparian owner can claim title to lands as a result of relictions, *such reliction must be of a permanent nature*, without the possibility of the water again filling in or covering the relicted area. (Emphasis in original.)

29 N.W.2d at 667.

> Derelicted or relicted land is land added by the recession of the water leaving a portion of the bed dry.[39]
>
> [39] *Fontenelle* v. *Omaha Tribe of Nebraska*, 298 F.Supp. 855 (D.Neb. 1969), *aff'd*, 430 F.2d 143 (8th Cir. 1970).

Lundquist, *Artificial Additions to Riparian Land: Extending the Doctrine of Accretion*, 14 ARIZ.L.REV. 316, 321 (1972). And see, *Utah* v. *Hardy, supra.*

Though the use of "permanent" as a necessary quality of the change appears sometimes in opinions where the

doctrine is not applied because the change has been so clearly temporary, as in *Flisrand* v. *Madson*, 35 S.D. 457, 152 N.W. 796, 798 (1915), and *Hillebrand* v. *Knapp*, 65 S.D. 414, 274 N.W. 821, 823 (1937), none of the decisions which omit such reference is inconsistent with the idea of permanence or stability. There is nothing in the Court's application of federal common law to the situation in *Bonelli* which indicates any departure from the non-federal common law in this respect. All references to the change in relation of the Colorado River to the shoreland indicate the result was a permanent addition to the riparian land.

3. The special facts of the present case bearing upon the question of permanence are now considered.

At the date of the quitclaim deed the elevation of the Lake was 4194.9 feet (Tr. 3), a drop of 5.3 feet in its level from January 4, 1896, the date of statehood. At that time its elevation was 4200.2 feet. See Report of Special Master Ganey, October 26, 1970, at 29. This lowering of the level of the Lake had exposed by June 15, 1967, an area of about 325,000 acres, shown on Exhibit D-2 in the dark shading. Since June 15, 1967, the level of the Lake has risen to within a few inches of its statehood level, reinundating this area which had become exposed after statehood. Thus as of February 27, 1973, the date of hearing before the Special Master, nearly all the land now in dispute had been resubmerged. See p. 9, *supra*.

This development is part of the physical situation respecting the Lake and adjoining land, demonstrated by data available to the Court and bearing upon the question to be decided. Whatever interests the United States owned June 15, 1967, and described in the deed, passed to Utah; but whether any of this land which had become exposed after statehood was then owned by the United States depends upon whether the doctrine of reliction

had divested Utah of its prior ownership. That question, in the opinion of the Special Master, cannot be answered so as to divest Utah of title to the area in question unless the condition on June 15, 1967 was a reasonably permanent or stable one. This element of the doctrine is illuminated by the continuity of the Lake's history since June 15, 1967.

The importance of the post-June 15, 1967 data is that it demonstrates that the situation had not prior to or on June 15, 1967, reached a state of stability or reasonable permanence. While the Court's decree of May 22, 1972, states the basic question to be whether "prior to June 15, 1967, the claimed doctrine of reliction applies," the facts bearing upon whether the doctrine applies prior to that date include data with respect to the relation of the waters of the Lake to the land on and subsequent to June 15, 1967. This evidence discloses a continuing movement which has reinundated the area, thus reconstituting the bed of the Lake just about as it was at statehood.

It does not seem that the issue of possibly divesting Utah of title to the area should be determined by freezing the situation as it was at some moment on or prior to June 15, 1967, when it has developed that the Lake on that date was in a rising movement which, with interim up and down fluctuations, has continued to the time of the making of the record in this case. See Exhibit P-4.

The doctrines of accretion and reliction contemplate ambulation in title boundaries; but the valuable features of riparian ownership, particularly those incident to maintaining access to the water, and the compensation theory referred to in *Bonelli*, *supra*, 414 U.S. at 326, seem to the Special Master to envisage a situation different from the special relation of the waters of the Great Salt Lake to the riparian land. Such a relation seems inconsistent with the stability which should pertain to a change

in title by operation of law. In providing for payment by Utah to the United States of such interests as the United States might be found to have conveyed to the State by the quitclaim deed of June 15, 1967, the statute of June 3, 1966 is indicative of a congressional assumption that such payment would be required only if the situation at that date was reasonably permanent in nature rather than temporary, as the history of the Lake has demonstrated it to have been.[23]

4. Under a dominant principle of *Bonelli* the reinundation during the period of this litigation of almost the entire statehood bed of the Great Salt Lake confirms the Special Master in his recommendation adverse to application of the relicition doctrine, because the public benefit of Utah entitled to protection has moved along with the reinundating waters of the Lake, whereas in the *Bonelli* case Arizona's public benefit to be protected faded away as the waters of the Colorado River receded from the land.

Note is taken of the *Statement of the State of Utah With Respect to Bonelli v. Arizona*, filed January 28, 1974, which refers to various interests of Utah in the disputed area as substantial. Among these is that the exercise of its navigational servitude over the Lake would be threatened by a holding that the disputed land is not part of the bed of the Lake. Reference also is made to the brines, salts and minerals in solution. These minerals are extracted by pumping water from the Lake into "settling ponds" on the salt or mud flats, where solar evaporation causes the minerals to precipitate on the bottom of the ponds. See Tr. at 33, 81.

---

[23] Should the Court hold that the doctrine of reliction has divested Utah of title to the land claimed by the United States under that doctrine, a question, not factually addressed by the parties on the present record, may arise as to the exact boundary lakeward of the relicted lands on June 15, 1967.

The doctrine of reliction does not seem to furnish a sound basis for resolution as of June 15, 1967, of the respective interests of the two sovereigns in and about this unusual body of water.

FINDINGS OF FACT [24]

1. The Great Salt Lake is a large body of water surrounded in greater part by shorelands which are so flat that a slight change in the elevation of the Lake causes the water, except where the shore is mountainous, to spread over a large area quite out of proportion to the change in elevation of the surface of the Lake if the change is a rise, and vice versa if a fall.

2. Only a relatively small part of the immediate shoreland is mountainous. See Exhibit P-1; Report of Special Master Ganey, October 26, 1970, at 10-13.

3. Streams of clear water are the chief tributary sources of the Lake, supplemented by precipitation. The Lake has no outlet. Its elevation accordingly is governed by the inflow of the streams, by precipitation, and by evaporation, the latter depending upon climate, the area

---

[24] The parties are in agreement as to the physical characteristics and history of the movements of the Lake in relation to the shorelands, represented by the statistical data and charts contained in the Exhibits. This data as set forth in the Report and, also, the testimony of Mr. Arnow and Mr. Hewitt, may therefore be considered as undisputed findings. The present Findings of Fact are limited to those basic or ultimate findings which the Special Master believes are determinative of the conclusion to be reached. They reflect in final form the interim findings and conclusions set forth in the course of his Report.

The fact that the Report in important respects is discursive of the evidence in its legal consequences, and is not confined to factual findings, the Special Master considered justified by the nature of the case.

of the surface of the Lake at different times, and the degree of salinity of the waters of the Lake.

4. As the name of the Lake implies the water is salty. The degree of salinity, which in turn affects the rate of evaporation, depends in part upon the relation of fresh water inflow and precipitation to the degree of evaporation. The latter depends largely upon the relative aridity of the climate at any particular time.

5. Man-made interferences with the rate of tributary inflow over the years has affected the elevation of the Lake. The elevation would have been 3.7 feet higher at the time of statehood and 5.28 feet higher in 1967 if it were not for the activities of man.

6. The various factors above described and their interaction one upon another cause a continuous change in the elevation of the Lake. This causes a constant fluctuation of its waters, in both a receding and inundating character with respect to the flat shorelands.

7. At some periods in the history of the Lake, of which accurate records have been kept, made available to the Court in the record compiled before the Special Master, the general trend in the relation of the waters of the Lake to the shorelands has been a recession from the line which defined the bed of the Lake at statehood, when title to the bed vested in Utah. These periods of general recession, exposing land which was part of the bed at statehood, have always been accompanied by "up and down" fluctuations which did not interrupt the general recession.

8. At other periods in the history of the Lake the opposite of the above has occurred; that is, the general direction of the movement of the waters has been to inundate or reinundate large areas of shoreland previously exposed, accompanied by similar smaller fluctuations "up and down" within the general direction of inundation or reinundation.

9. The situation described in findings 7 and 8 is illustrated by Exhibit P-4 made a part of this Report, and grows out of the variations which occur among the several factors which contribute to the movements of the waters in relation to the shorelands at different times.

10. On January 4, 1896, the date of statehood of Utah, the elevation of the Lake was 4200.2 feet. On June 15, 1967, the date of the quitclaim deed, it was 4194.9 feet, a recession of 5.3 feet. This had resulted as of June 15, 1967, in the exposure of an estimated 325,000 acres of land which was part of the bed of the Lake at statehood.

11. On June 15, 1967, as part of a process of movement of the waters of the Lake in relation to the shorelands which began in 1963, the elevation of the Lake was rising and has continued in a general rising movement to the time of the hearing before the Special Master in February, 1973, at which time nearly all the land exposed as described in Finding 10 had been reinundated so that the bed of the Lake was about as at statehood; that is, the land which at statehood had constituted the bed of the Lake was again almost entirely covered by the waters of the Lake.

12. The Lake experiences three general types of fluctuations, annual, seasonal and daily, although there are also measurable monthly and hourly changes. The annual change is the product of every physical factor affecting the level of the Lake on a yearly basis. The average of changes in the level of the Lake at regular intervals over a 12-month cycle since statehood has been about .69 feet; that is, the average annual change of the level has been about 8.28 inches, a change which, considered alone, would inundate about 50,000 acres of shoreland due to the fact that much of the shoreland is so flat that the water moves almost in a horizontal direction.

13. The shoreline of the Lake is 350 lineal miles. If the shoreline were of about equal flatness and the 50,000 acres referred to in Finding 12 were distributed equally among the lineal miles, the average movement along the shore would be about 1200 feet annually, about 3 feet per day, or a little over 1½ inches per hour. These calculations do not reflect the actual movements of the water as they occur but are based on averages calculated subsequent to the actual movements.

14. The shorelands are not of equal flatness or width of flatness, due to the mountains which are adjacent to some parts of the Lake, shown on Exhibit P-1, and other mountains which border the Lake. The movement of the waters along the lineal miles of shoreland is affected by mountains some of which, although not at the edge of the water or obtruding upward in it, border the shorelines at a distance near enough to affect the spread of the waters in a manner not reflected in the calculation described in Finding 13.

15. By reason of the conditions described in Finding 14 above the calculations reflected in Finding 13 that the average movement along the shore would be about 1200 feet annually, about three feet per day, or little more than 1½ inches per hour, are to an unascertained degree an under-estimate of the rate of movement over extensive areas of shore, a rate of movement which the Special Master cannot find on this record to be imperceptible.

16. The continuous rise and fall of the elevation of the Lake, though gradual, is reflected in a continuous movement of the waters to and fro across the shorelands, apart from the effects of the wind. These movements are often perceptible.

17. The net amount of land exposed or inundated over a substantial period of time is perceptible in comparison with the situation at the beginning of such pe-

riod, although one may not be able at any particular moment to perceive a separate component of the resulting exposure or inundation.

18. The constant fluctuations [25] of the Lake may often obscure the progress, as it occurs, of a recession or inundation which is readily perceived after the passage of time, but the Special Master is unable to find that the progress of such recession or inundation is at a rate which would be imperceptible as it occurs.

19. The land referred to as exposed at the time of the quitclaim deed, which at statehood was part of the bed of the Lake, was not an addition of a reasonably permanent or stable character to the uplands, title to which is in the United States. The land in question has been almost entirely reinundated by a spreading of the waters of the Lake by a movement which began in 1963, was in progress at the date of the quitclaim deed, and continued to the time of the hearing in this case before the Special Master in February, 1973.

Conclusions of Law

1. The question considered is to be decided under the federal common law doctrine of reliction.

2. Whether under that doctrine any interests were owned by the United States in the lands lying between the outer edge of the bed of the Lake at statehood and its bed underwater on June 15, 1967, which passed to the State of Utah by the quitclaim deed of the United States of June 15, 1967, depends upon whether the exposure of the land referred to, either by a perceptible or a gradual and imperceptible process, constituted a reasonably permanent or stable addition to the riparian land which was up-

[25] The use of "fluctuations" in this finding does not exclude the effect of the wind.

land from the bed of the Lake at statehood, title to which was in the United States.

3. The exposure of the lands referred to occurred in the course of such unique changes in the relation of the waters of the Lake to the shorelands as not to come within the doctrine of reliction. These changes were not at the date of the quitclaim deed of such a reasonably permanent or stable character as to warrant application of the doctrine.

4. The public benefit of Utah which is entitled to protection has accompanied the reinundation of the bed of the Lake to approximately its extent at statehood.

5. The law of reliction has not divested the State of Utah of title to the lands described.

6. The State of Utah is entitled to a decree quieting its title as against the United States to the bed of Great Salt Lake at the date of statehood.

7. The State of Utah is not required to pay the United States for the land covered by Great Salt Lake and below the boundary line of the Lake's bed as of January 4, 1896.

8. The United States is the riparian owner which would be entitled to the benefit of the doctrine of reliction were it applicable to the land the title to which is the subject matter of this Report. The Lake, its bed, and the adjoining land were ceded by Mexico to the United States in 1848 under the Treaty of Guadaloupe Hidalgo, 9 Stat. 922. See Report of Judge Ganey, October 26, 1970, p. 9.

PROPOSED DECREE

It is ordered, adjudged and decreed that:

1. The United States of America, its departments and agencies, are enjoined, subject to any regulations which the Congress may impose in the interest of navigation

or pollution control, from asserting against the State of Utah any claim of right, title and interest:

(a) to any of the exposed shorelands situated between the edge of the waters of the Great Salt Lake on June 15, 1967, and the bed of the Lake on January 4, 1896, when Utah became a State, with the exception of any lands within the Bear River Migratory Bird Refuge and the Weber Basin federal reclamation project;

(b) to the natural resources and living organisms in or beneath any of the exposed shorelands of the Great Salt Lake delineated in (a) above; and

(c) to the natural resources and living organisms either within the waters of the Great Salt Lake, or extracted therefrom, as delineated in (a) above.

2. The State of Utah is not required to pay the United States, through the Secretary of the Interior, for the exposed shorelands, including any minerals, delineated in paragraph 1 above of this decree.

3. There remains the question whether any lands within the meander line of the Great Salt Lake (as duly surveyed prior to or in accordance with section 1 of the Act of June 3, 1966, 80 Stat. 192), and conveyed by quitclaim deed to the State of Utah, included any federally owned uplands above the bed of the Lake on the date of statehood (January 4, 1896) which the United States still owned prior to the conveyance to Utah.[1] In the absence of agreement between the parties disposing of the above question or of the necessity for further proceedings with respect thereto, the Special Master is directed to hold such hearings, take such evidence, and

---

[1] As appears from p. 4 of the Special Master's Report the parties have reserved their position with respect to this question.

conduct such proceedings with respect to that question as he deems appropriate and, in due course, to report his recommendations to the Court.

4. The prayer of the United States of America in its answer to the State of Utah's Complaint that this Court "confirm, declare and establish that the United States is the owner of all right, title and interest in all of the lands described in Section 2 of the Act of June 3, 1966, 80 Stat. 192, as amended by the Act of August 23, 1966, 80 Stat. 349, and that the State of Utah is without any right, title or interest in such lands, save for the right to have these lands conveyed to it by the United States, and to pay for them, in accordance with the provisions of the Act of June 3, 1966, as amended," is denied.

Respectfully submitted,

CHARLES FAHY,
Senior Circuit Judge,
Special Master.

APPENDIX A

Statistical Data as to Rise and Fall of Elevation of Lake by Periods, with Effect on Bordering Land.

1. 1873-1906

At the time of Utah's statehood, the Lake was in a period of general decline which had begun in 1873. In 1873 the Lake's average level was 4211.20 feet and in 1896 it had fallen to an average level of 4201.10 feet. It continued to fall until in 1906 it reached an elevation of an annual average of 4196.83 feet. Thus from 1873 to 1906, the Lake's elevation declined approximately 14.37 feet, and from 1896 to 1906, 4.27 feet. [Exhibits D-3 and D-6.]

The surface area of the Lake receded from an approximate average annual area of 1,554,000 acres in 1873 to approximately 1,120,000 in 1896 and 835,700 acres in 1906, with a recession between 1873 and 1906 of 718,300 acres of land and from 1896 to 1906 of 284,300 acres of land. [Exhibits D-3 and P-5.]

2. 1906-1910

From 1906 to 1910 the Lake rose 6.10 feet, from its average annual elevation of 4196.83 feet to 4202.93 feet, and increased its surface area by approximately 371,800 acres, from 835,700 acres to 1,207,500 acres. [Exhibits D-3 and P-5.]

3. 1910-1920

From 1910 to 1920 the Lake declined 1.71 feet in elevation, from an average elevation of 4202.93 feet to 4201.22 feet, and receding 81,700 acres, from a surface area of 1,207,500 acres to 1,125,800 acres. [Exhibits D-3 and P-5.]

4. 1920-1924

From 1920 to 1924 the Lake rose 3.09 feet in elevation from an average of 4201.22 feet to 4204.31 feet, and its surface area increased by 143,700 acres from 1,125,800 acres to 1,269,500 acres. [Exhibits D-3 and P-5.]

5. 1924-1936

From 1924 to 1936 the Lake declined 9.54 feet in elevation from an average of 4204.31 feet to 4194.77 feet, and its surface area decreased 566,700 acres, from 1,269,500 acres to 702,800 acres. [Exhibits D-3 and P-5.]

6. 1936-1953

From 1936 to 1953 the Lake rose 5.17 feet in elevation, from an average of 4194.77 feet to 4199.94 feet, and its surface area increased 355,600 acres from 702,800 acres to 1,058,400 acres. [Exhibits D-3 and P-5.]

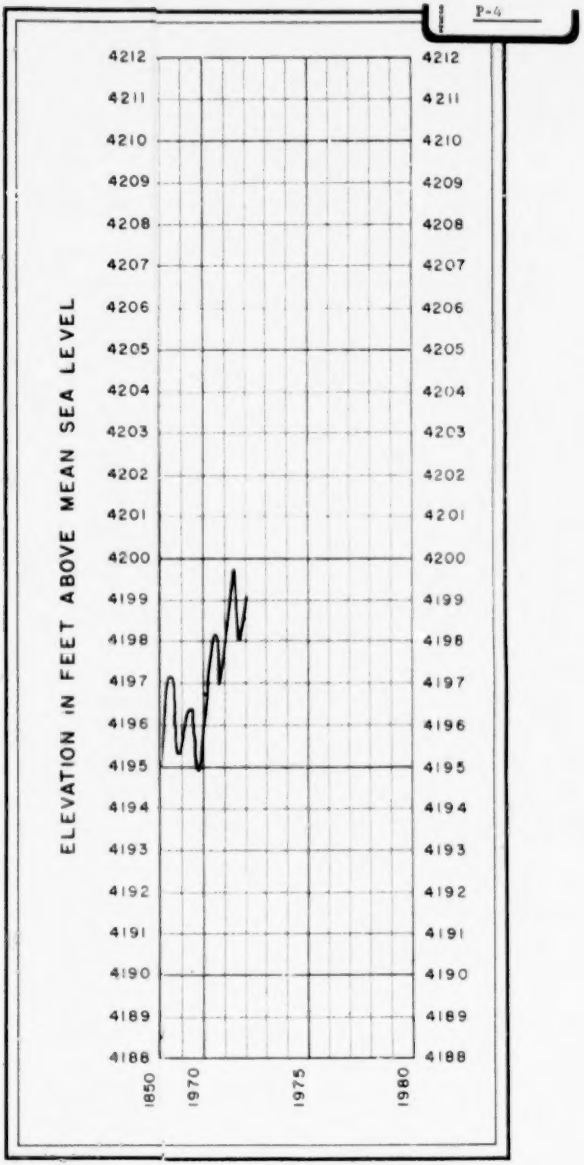
7. 1953-1963

From 1953 to 1963 the Lake declined 7.2 feet in elevation from an average of 4199.94 feet to 4192.22 feet, and its surface area decreased 438,800 acres from 1,058,400 acres to 619,600 acres. [Exhibits D-3 and P-5.]

8. 1963-1973 Hearing

From 1963 to the 1973 Hearing the Lake has been generally rising. In 1963 the elevation of the Lake was 4192.22 feet, the average level. In 1967, the average elevation of the Lake was 4194.01 feet, an increase of 1.79 feet. By 1967 the Lake's surface area had increased 52,800 acres from an average of 619,600 acres to 672,400 acres. If the Lake has reached 4200 feet, it would have risen 7.78 feet since 1963 and its surface area would have increased 442,400 acres to 1,062,000 acres. [Exhibits D-3 and P-5.]

FOLDOUT(S) IS TOO LARGE TO BE FILMED.



INDEX

	Page
Introduction	7
Question presented	9
Statement	9
Argument	14
I. Perceptible and extensive temporary or seasonal movements of a physical riparian boundary do not affect the legal boundary and thus do not defeat the applicability of the doctrine of reliction	15
II. Lands that are subject to reinundation may nonetheless be gained by reliction	17
III. The Boundary of the Great Salt Lake has moved by a process of reliction, since its movements have been gradual and imperceptible	20
IV. Analysis of the parties' interests in the Great Salt Lake up to the time of the Great Salt Lake Lands Act requires the application of the doctrine of reliction	22
Conclusion	25

CITATIONS

Cases:

Alabama v. *Georgia*, 23 How. 505	15
Anderson v. *Ray*, 37 S.D. 17, 156 N.W. 591	16
Arizona v. *Bonelli Cattle Co.*, 107 Ariz. 465, 489 P. 2d 699, reversed, 414 U.S. 313	16
Bonelli Cattle Co. v. *Arizona*, 414 U.S. 313	14, 22
Borax v. *Los Angeles*, 296 U.S. 10	11
Fontenelle v. *Omaha Tribe of Nebraska*, 38 F. Supp. 855, affirmed, 430 F. 2d 148	20
Hilliebrand v. *Knapp*, 65 S.D. 414, 274 N.W. 821	16
Nebraska v. *Iowa*, 143 U.S. 359	17
Peuker v. *Canter*, 62 Kan. 363, 63 P. 617	18
Philadelphia Co. v. *Stimson*, 223 U.S. 605	14, 16
Rapp v. *Kirk*, 231 Iowa 1387, 4 N.W. 2d 264	18
Sapp v. *Frazier*, 51 La. Ann. 1718, 26 So. 378	16, 19, 20

Cases—Continued Page

State v. *Longyear Holding Co.*, 224 Minn. 451, 29 N.W. 2d 657 20

United States v. *Claridge*, 416 F. 2d 933 16

Widdecombe v. *Chiles*, 173 Mo. 195, 73 S.W. 444 18

Wilcox v. *Pinney*, 250 Iowa 1378, 98 N.W. 2d 720 18

Statutes:

Great Salt Lake Lands Act, Sec. 1, 80 Stat. 192, et seq. 7

Sec. 2 8

Sec. 4 8

Sec. 5(b) 25

Miscellaneous:

Beck, *The Wandering Missouri River: A Study in Accretion Law*, 43 N.D.L. Rev. 429 (1967) 17, 18

112 Cong Rec. 5005, 5008, 7505, 7508, 11047, 11078–11081 24

Guiness Book of World Records, 1974 ed. 21

65 Corpus Juris Secundum, *Navigable Waters*, § 86c .. 22

Hearing on H.R. 1791 and H.R. 6267 Before The Subcommittee on Public Lands of the Committee on Interior and Insular Affairs, 89th Cong., 2d Sess. .. 23

Lundquist, *Artificial Additions to Riparian Land: Extending the Doctrine of Accretion*, 14 Ariz. L. Rev. 316 (1972) 18, 22

Peck and Richardson, *Hydrology and Climatology of the Great Salt Lake*, in Guidebook to the Geology of Utah, No. 20, Figure 4 18

5A Thompson *on Real Property*, § 2560, et seq. (1957 Replacement) 18, 22

World Almanac, 1973 ed. 12

In the Supreme Court of the United States

OCTOBER TERM, 1973

No. 31, ORIGINAL

STATE OF UTAH, PLAINTIFF

v.

UNITED STATES OF AMERICA

EXCEPTIONS OF THE UNITED STATES TO THE REPORT OF THE SPECIAL MASTER FILED APRIL 15, 1974

Pursuant to the order of the Court,[1] the United States presents the following exceptions to the Report of the Special Master filed April 15, 1974:

I

With respect to the Conclusions of Law of the Special Master appearing at pages 31–32 of his Report:

1. The United States excepts to the failure of the Special Master to conclude, in accordance with the

[1] On April 15, 1974, the Court ordered: "The Report of the Special Master is received and ordered filed. Exceptions, if any, with supporting briefs, may be filed [within 30 days]." A request by the United States for an extension of the time for filing the exceptions and brief to May 30, 1974, was granted on May 16, 1974. The Report of the Special Master is referred to herein as "R."

long-established rule of this Court, that seasonal changes in a body of water do not result in a change of the boundary that is subject to modification by the doctrine of reliction.

2. The United States excepts to the declaration in Conclusion of Law 2 that the application of the doctrine of reliction in this case "depends upon whether the exposure of the land * * * constituted a reasonably permanent or stable addition to the riparian land which was upland from the bed of the Lake at statehood * * *" (R. 31–32).

3. The United States excepts to the ruling in Conclusion of Law 3 that the exposure of shorelands "occurred in the course of such unique changes in the relation of the waters of the Lake to the shorelands as not to come within the doctrine of reliction" (R. 32).

4. The United States excepts to the ruling in Conclusion of Law 3 that the "changes were not at the date of the quitclaim deed of such a reasonably permanent or stable character as to warrant application of the doctrine" (R. 32).

5. The United States excepts to the determination in Conclusion of Law 4 that the "public benefit of Utah which is entitled to protection has accompanied the reinundation of the bed of the Lake to approximately its extent at statehood" (R. 32), inasmuch as the Special Master is in fact applying the doctrine of reliction to the benefit of the State of Utah while refusing to apply it to the benefit of the United States, and, further, because the reinundation referred

to for the most part has occurred since June 15, 1967, the public benefit for navigation or any other related purpose is already fixed in the State by the Great Salt Lake Lands Act of June 3, 1966, 80 Stat. 192.

6. The United States excepts to the holding in Conclusion of Law 5 that the "law of reliction has not divested the State of Utah of title to the lands described" (R. 32).

7. The United States excepts to the ruling in Conclusion of Law 6 that the "State of Utah is entitled to a decree quieting its title as against the United States to the bed of Great Salt Lake at the date of statehood" (R. 32).

8. The United States excepts to the ruling in Conclusion of Law 7 that the "State of Utah is not required to pay the United States for the land covered by Great Salt Lake and below the boundary line of the Lake's bed as of January 4, 1896" (R. 32).

II

With respect to the Findings of Fact of the Special Master appearing at pages 27–31 of his Report:

1. The United States excepts to the determination in Finding of Fact 10 that the recession of the Lake between statehood and the date of the quitclaim deed has resulted "in the exposure of an estimated 325,000 acres" (R. 29), inasmuch as the correct figure is 396,000 acres as shown in Exhibit P–5 (reproduced as a part of the Report).

2. The United States excepts to the determination in Finding of Fact 12 that a change in the level of the

Lake of 8.28 inches "would inundate about 50,000 acres of shoreland" (R. 29), inasmuch as the inundation of about 50,000 acres would occur *only* when a change took place at the level of about 4198.5 feet above mean sea level (the average level of the Lake since statehood), whereas generally a lesser number of acres is inundated by changes of 8.28 inches at both lower or higher elevations as shown in Exhibit P–5 (reproduced as a part of the Report).

3. The United States excepts to the characterization in Finding of Fact 14 that the effect of mountains upon the movement of the water along the shoreland is "not reflected in the calculation described in Finding 13" (R. 30), inasmuch as the calculation is an average which inherently includes areas where the rate of movement is both greater and smaller than the stated average.

4. The United States excepts to the characterization in Finding of Fact 15 that the average movement along the shoreland of 1½ inches per hour is "to an unascertained degree an under-estimate of the rate of movement over extensive areas of shore" (R. 30). The movement over the flattest part of the shore during the most extreme year amounted to only 15 inches per hour (Br. for the United States Before the Special Master, p. 7, n. 7). This is the greatest possible extent to which the calculated average in Finding 13 is an "underestimate."

5. The United States excepts to the determination in Finding of Fact 15 that the average movement of 1½ inches per hour, or the maximum historical movement of 15 inches per hour, is a rate of movement which is not imperceptible.

6. The United States excepts to the determination in Finding of Fact 18 that the progress "of a recession or inundation," unobscured by "constant fluctuations," cannot be found to "be imperceptible as it occurs" (R. 31).

7. The United States excepts to the determination in Finding of Fact 19 that the land exposed between statehood and the time of the quitclaim deed "was not an addition of a reasonably permanent or stable character" (R. 31).

III

With respect to the Proposed Decree of the Special Master appearing at pages 32–34 of his Report:

1. The United States excepts to the failure of the Special Master to include in the preamble of paragraph 1 the words "such as" in the phrase "subject to any regulations which the Congress may impose in the interest of navigation or pollution control" (R. 32–33), inasmuch as the Decree entered by this Court on May 22, 1972, 406 U.S. 484, uses the phrase "subject to any regulations which the Congress may impose, *such as* in the interest of navigation or pollution control [emphasis added]."

2. The United States excepts to the Proposed Decree of the Special Master in its entirety (R. 32–34), insofar as it grants the relief sought by Utah and denies the relief sought by the United States.

Respectfully submitted.

ROBERT H. BORK,
Solicitor General.

MAY 1974.

In the Supreme Court of the United States

OCTOBER TERM, 1973

No. 31, ORIGINAL

STATE OF UTAH, PLAINTIFF

v.

UNITED STATES OF AMERICA

BRIEF FOR THE UNITED STATES IN SUPPORT OF EXCEPTIONS TO THE REPORT OF THE SPECIAL MASTER FILED APRIL 15, 1974

I. INTRODUCTION

This litigation is authorized by the Great Salt Lake Lands Act, 80 Stat. 192. In order to assure a permanent boundary between state and federal ownership of land in the Great Salt Lake Basin, Congress provided that the surveyed meanderline of the Great Salt Lake should become the boundary between state and federal ownership. To that end, the United States would quitclaim to Utah all of its interests below the meanderline,[1] and Utah, in partial compensation, would quitclaim to the United States all of its interests above the meanderline. These mutual obligations exist without regard to whether land on either side of the meanderline was exposed or inundated by the water (80 Stat. 192, Secs. 2 & 4). Utah agreed to pay

[1] The meanderline was surveyed at several different dates, but in many places approximates the level of the Lake in 1855.

548-686

an assessed valuation for whatever land this Court determines that the United States owned below the meanderline as of the date of the quitclaim deed, June 15, 1967. Should Utah fail to do so within two years of the valuation, the mutual conveyances are cancelled, and each party would own those lands to which it was entitled in the absence of the Act.

In an earlier stage of this litigation, this Court held that the Great Salt Lake was navigable at the time of Utah's admission to the Union, and that the State therefore acquired title to the bed of the Lake by operation of the equal footing principle. 403 U.S. 9. Thus, the State of Utah is not obliged to pay the United States for any of the lands lying below the level of the Lake on June 15, 1967. 406 U.S. 484.

The question to be determined at this stage of the litigation is whether the lands exposed by the recession of the waters of the Great Salt Lake between statehood (January 4, 1896) and the date of the quitclaim deed from the United States (June 15, 1967) belonged to the United States, where it is the upland owner, by operation of the doctrine of reliction. If so, Utah is obliged to pay the United States for the lands so conveyed on June 15, 1967.[2]

[2] Should this Court agree with the Special Master that the doctrine of reliction is not applicable to Great Salt Lake and that Utah therefore has continued, notwithstanding any recession of the waters of the Lake, to own all lands within the boundary of the Lake at the time of statehood, it will then become necessary to resolve the dispute among the parties concerning the boundary of the Lake at statehood. The State contends that the surveyed meanderline represents the correct boundary of the Lake, and that therefore the quitclaim deed executed by the United States on June 15, 1967, did not enhance the State's title; in that case, the State would owe no payment to the United States under the Act.

II. QUESTIONS PRESENTED

1. Whether the fact that rapid daily and seasonal changes occur along the shorelands of the Great Salt Lake and the fact that exposed shorelands may someday be reinundated render the doctrine of reliction inapplicable to the Great Salt Lake.

2. Whether, between statehood and the date of the quitclaim deed, portions of the bed of the Great Salt Lake were exposed by a gradual and imperceptible process.

III. STATEMENT

In this stage of the litigation, there is little factual dispute concerning the history and characteristics of the Great Salt Lake.[3]

The Great Salt Lake occupies the lowest part of a flat, closed basin. The Lake is approximately 70 miles long and 30 miles wide. Its maximum depth is about

---

On the other hand, the United States contends that the boundary of the Lake on January 4, 1896, is defined by the water's edge at that date (or some seasonally adjusted line derived therefrom), so that it remained the owner of the substantial areas lying between the water's edge at statehood and the surveyed meanderline, much of the Lake having been surveyed (and the meanderline established) at times when the elevation of the Lake was substantially higher than at statehood.

If, on the other hand, the Court agrees with us that the doctrine of reliction applies, only the technical matter of determining the boundary of the Lake on the date of the quitclaim deed will remain, and issues relating to the meanderline will drop out of the case and will not require further litigation.

[3] See R. 27, n. 24. The principal witness at trial was a joint witness, Mr. Theodore Arnow, United States Geological Survey (U.S.G.S.), Utah. Mr. Arnow's testimony (Tr. 28-61) consisted mainly of a brief explanation of the history of the Lake and the cause of its fluctuations. The detailed history of the fluctuations is set forth in plaintiff's Exhibits, which are derived from U.S.G.S. records.

34 feet. At some points, the shorelands surrounding the Great Salt Lake are extremely flat, while at others, mountain ranges project through the Lake. As a result, a change in the level of the Lake may inundate or expose considerable shorelands in some areas and no shorelands at all in others (Tr. 33–34).

The Great Salt Lake has no outlet. The only way the Lake loses water (outflow) is by evaporation. It receives water (inflow) from tributaries and from rainfall on the Lake. Since outflow rarely exactly equals inflow, the level of the Great Salt Lake fluctuates (Tr. 36–38; Ex. P–4).

Many variable but interrelated physical factors affect the level of the Great Salt Lake. The rate of inflow is for the most part a function of precipitation (Tr. 40). The rate of evaporation is a function of the wind, temperature, salinity, and surface area of the Lake. In addition, inflow affects salinity and surface area: As the level of the Lake rises, the rate of evaporation increases because there is more surface from which to evaporate, and conversely. Heavy inflow decreases the salinity of the water, which also increases evaporation. Thus, the level of the Lake tends to be self-stabilizing (Tr. 48–54).

The level of the Great Salt Lake is affected by three general types of fluctuations: annual, seasonal, and daily. Only the annual fluctuations reflect a change in the ordinary high water mark—the boundary that is subject to modification by the doctrine of reliction.

Daily fluctuation is caused by the action of the wind and is not a change in the level of the Lake. The wind can push up as much as two feet of water in one

part of the Lake while the level goes down commensurately elsewhere (Tr. 46–47).

The seasonal fluctuation reoccurs each year in essentially the same pattern and is the dominant element in changes in lake elevation (Cf. Exs. P–4, P–9, P–11). It is caused principally by regular changes in temperature and precipitation. Over the hot, dry summer the level of the Lake declines. As the temperature cools, the seasonal low occurs, usually in October or November. Maximum precipitation occurs in late fall and early spring, and the level of the Lake rises. As the temperature increases in the late spring, snowmelt runoff occurs. The seasonal high usually occurs in May or June, depending upon the coolness of the spring, again followed by a decline over the hot, dry summer (Tr. 48–49). These cyclical seasonal fluctuations are not in themselves changes in the boundary of the Lake.[4]

The annual change is a product of every physical factor affecting the level of the Great Salt Lake. It is measured by differences in the "average yearly stage" of the Lake, which is the average of the levels of the Lake at regular intervals over a 12-month cycle (Ex. P–18, p. 4). This is comparable to the 18.6 year cycle used in computing tidal boundaries. See *Borax, Ltd.* v. *Los Angeles*, 296 U.S. 10, 26–27.

Annual changes in the level of the Great Salt Lake have generally been less than 1 foot per year. Since statehood, the average annual change has been about 8 inches (Ex. D–3). The greatest annual change occurred in 1907, when the level of the Lake rose 1.86 feet, or less than 1/16 inch per day. Since that time

[4] See discussion at pp. 15–17, *infra*.

the Lake has experienced an annual change of more than a foot on only ten occasions (Ex. D–3; Ex. P–18).[5]

Even though the annual fluctuations have not been great, small changes in the level of the Lake can inundate or expose hundreds of feet of shoreland (Ex. D–4) because the shorelands in some parts of the Great Salt Lake are extremely flat (see Exs. D–1 and D–2). As the level of the Lake changes, the movement of the water's edge in these flat areas is almost in a horizontal direction.

The average annual movement of the boundary of the Great Salt Lake has been quite small. Since statehood, the average Lake level has been about 4198.5 feet [6] (Ex. P–18). At this level, the average annual change in water level of .69 feet (Ex. D–3) would expose or inundate about 50,000 acres of shorelands (Ex. P–5). However, in a lake with a shoreline of 350 miles (1973 World Almanac, p. 474) this means an average movement along the shore of less than 1,200 feet (1178.5).[7] Such a movement is barely 3 feet per day, or a little more than 1½ inches per hour.

Similar calculations can be made for extreme circumstances. For example, the flattest shorelands in the entire perimeter of the Lake are located in the northwest corner (Ex. D–1; see B–B′ in Ex. D–5). The greatest annual change occurred between 1906 and 1907 when the level of the Lake rose from 4196.83

[5] Ex. D–3 and Ex. P–18 contain data only through 1967, the year of the quitclaim deed.

[6] All levels given are distances above mean sea level.

[7] 50,000 acres = 78⅛ sq. mi. 78⅛ sq. mi. divided over a 350 mile shore is .2232 mi., which equals 1178.5 feet.

to 4198.69 feet above mean sea level (Ex. D–3). As shown by cross-section B–B′, about 2.2 miles of shoreland, or 11,616 feet, were inundated in that area in one year. This most extreme movement in the most extreme year represents a "horizontal" movement of about 31 feet per day or only 15 inches per hour (Ex. D–4). And even in the most extreme year, many other areas along the shore remained relatively unaffected. At the area shown by cross-section D–D′, only 0.2 miles, or 1,056 feet, were inundated over the same year. This represents less than 3 feet per day or 1½ inches per hour (Ex. D–4). Values for the most extreme movement in an average year (which the master found unascertained in Finding of Fact 14) and the average movement in the most extreme year can be similarly calculated. Both would lie between 1½ and 15 inches per hour.

Long-term trends in climate have resulted in general upward or downward trends in the level of the Lake (Tr. 53). The evidence shows that on the day of statehood the level of the Great Salt Lake was 4200.8 feet,[8] and was approaching the bottom of a long downward trend. The average yearly stage of the Lake bottomed in 1903 at 4197.00 feet, and in 1910 reached the top of an upward trend. For about the next 15 years, the level of the Lake remained stable, fluctuating above the statehood level at 4202–4203 feet. In 1924 a downward trend began, which bottomed in 1936 at 4194.77 feet. For the next ten

[8] The Master's finding that the level was 4200.2 feet is not supported by the evidence. See Exs. P–3, P–11.

years the level of the Lake again remained relatively stable at about 4194.5 to 4195.5 feet. In 1946 the level of the Lake began a rise which peaked in 1953 just below the statehood level, only to fall to the all-time low of 4192.22 feet in 1963. At the time of the trial the level of the Lake was rising and had almost reached statehood level (Ex. P–4; Ex. P–18; Ex. D–3; Ex. D–6). We are informed by the United States Geological Survey that the Lake is now above the statehood level. The May 24, 1974, level was 4201.4 feet.

Between statehood and the date of the quitclaim deed from the United States, the level of the Lake fell from 4200.8 feet (January 4, 1896) to 4194.9 feet (June 15, 1967). As a result, the water's edge moved inward and approximately 396,000 acres of shorelands were exposed around the Great Salt Lake (Ex. P–5).

ARGUMENT

The Special Master correctly concluded that federal rather than state law applies to determination of the boundary here in question (R. 5–7), relying on *Bonelli Cattle Co.* v. *Arizona*, 414 U.S. 313. His Report in general correctly states the federal law of accretion, which essentially guarantees to the upland owner title to adjoining riparian land that is formed by "gradual and imperceptible" processes (R. 10–14). See *Bonelli, supra*, 414 U.S. at 325–326, citing *Philadelphia Co.* v. *Stimson*, 223 U.S. 605, 624.

We submit, however, that in applying this standard, the Special Master made two errors of law. He regarded perceptible changes caused by seasonal factors

as affecting the boundary of the Lake and, because they were perceptible, as negating the applicability of reliction (R. 17–20). And, secondly, he held that even if the movement were gradual and imperceptible, reliction would not apply if the land uncovered was not "reasonably permanent or stable" in the sense that it was subject to reinundation, years or decades later (R. 20, 23–24). As we show below, however, the principle of reliction requires only that a change be gradual and imperceptible as measured without regard to ephemeral or seasonal factors. We further show that the record establishes that the changes in the boundary of the Great Salt Lake have been gradual and imperceptible. Finally, we show that analysis of the public benefit of the parties here provides no reason to change the established rule.

I. PERCEPTIBLE AND EXTENSIVE TEMPORARY OR SEASONAL MOVEMENTS OF A PHYSICAL RIPARIAN BOUNDARY DO NOT AFFECT THE LEGAL BOUNDARY AND THUS DO NOT DEFEAT THE APPLICABILITY OF THE DOCTRINE OF RELICTION

The Special Master takes special note in his report of data showing extensive seasonal changes in the area of the Lake (R. 17, par. 1) and minor but continuous daily fluctuations (R. 17–18). He uses this to indicate that when the "actual effect on the shorelands of such a change" is perceptible, at any time, then the doctrine of reliction cannot apply. This is not the law.

The boundary does not fluctuate with seasonal or obviously temporary changes. As the Court observed in *Alabama* v. *Georgia,* 23 How. 505, 515:

> * * * the bed * * * is that portion of its soil which is alternately covered and left bare, as there may be an increase or diminution in the supply of water, and which is adequate to contain it at its average and mean stage during the entire year, *without reference to the extraordinary freshets of the winter or spring, or the extreme droughts of the summer or autumn.* [Emphasis added.]

See also *Sapp* v. *Frazier,* 51 La. Ann. 1718, 26 So. 378, 380; *Hillebrand* v. *Knapp,* 65 S.D. 414, 274 N.W. 821, 823; *Anderson* v. *Ray,* 37 S.D. 17, 156 N.W. 591, 593.

Similarly, the movement of the water's edge during the annual flood stage of the Colorado River may well have been perceptible, but that movement did not affect the location of the ordinary high water mark. See *United States* v. *Claridge,* 416 F. 2d 933 (C.A. 9); *Arizona* v. *Bonelli Cattle Co.,* 107 Ariz. 465, 489 P. 2d 699, reversed on other grounds, 414 U.S. 313. And this Court has held that continual fluctuations do not prevent the application of the doctrine of reliction to more permanent changes, stating in *Philadelphia Co.* v. *Stimson, supra,* 223 U.S. at 625–626:

> * * * the general principle of accretion * * * applies * * * notwithstanding the extent and rapidity of the changes *constantly* effected. *Jefferis* v. *East Omaha Land Co.,* [314 U.S. 178]; *Jones* v. *Soulard,* 24 How. 41; *Saulet* v. *Shepherd,* 4 Wall. 502; *County of St. Clair* v. *Lovingston, supra; St. Louis* v. *Rutz,* [138 U.S. 226.] * * * *Nebraska* v. *Iowa,* [143 U.S. 359] * * *." [Emphasis added.]

Contrary to this rule, the Special Master here erroneously concluded that because of the constant fluctuations of the level of the Great Salt Lake, the doctrine of reliction does not apply. The same argument was rejected in *Nebraska* v. *Iowa*, 143 U.S. 359, involving another famous body of water, the Missouri River, wherein the Court stated (*id.* at 367, 369–370):

> * * * It is contended, however, that the doctrine of accretion has no application to the Missouri River, on account of the *rapid and great changes constantly going on* in respect to its banks; but the contrary has already been decided by this court in *Jefferis* v. *Land Company*, 134 U.S. 178, 189. [Emphasis added.]
>
> * * * * *
>
> Our conclusions are that, notwithstanding the rapidity of the changes * * * the law of accretion controls * * *.

See also Beck, *The Wandering Missouri River: A Study in Accretion Law*, 43 N. Dak. L. Rev. 429 (1967).

II. LANDS THAT ARE SUBJECT TO REINUNDATION MAY NONETHELESS BE GAINED BY RELICTION

The Master's Report concludes that there must be a reasonable permanence or stability to the change in a physical riparian boundary in order for the doctrine of reliction to work a change in the legal boundary as well. As just noted, to the extent that this rule refers to seasonal or temporary changes, it is correct. Here, however, the Master has applied it to a situation where

an area may change from exposure to inundation only at intervals of many years or decades. For example, the land being reinundated by the present rise in the Lake has been dry for the last 22 to 43 years (see Ex. P–4). Similarly, many cases have held reliction applicable where a river first moved in one direction and then reversed its course to re-expose the land it had inundated. See, *e.g.*, *Peuker* v. *Canter*, 62 Kan. 363, 63 P. 617 (river moved and returned in 21 years); *Rupp* v. *Kirk*, 231 Iowa 1387, 4 N.W. 2d 264 (river moved in one direction for 25 years with occasional backtracking, then reversed); *Widdecombe* v. *Chiles*, 173 Mo. 195, 73 S.W. 444; *Wilcox* v. *Pinney*, 250 Iowa 1378, 1381, 98 N.W. 2d 720, 723. See also Beck, *supra*, p. 17, 43 N. Dak. L. Rev. at 453–461.[9] And, of course, land which is exposed or inundated just before a change in direction of movement takes place is generally the land that will be reinundated or re-exposed the most quickly. Thus land at the 4195 foot level exposed in 1960 was again inundated in 1966 (Ex. P–4).

In the present case, however, the long-run changes were of a reasonably permanent nature, and correlate well with long run factors such as rainfall.[10] For example, the Lake has reached the statehood level only once since that time, in 1909–1929. Conversely, at no

[9] Indeed, if a boundary did not remain ambulatory despite repeated water movement across a given point, the established doctrine that land lost by erosion or reliction may be regained by accretion or dereliction would be largely negated. See Lundquest, *Artificial Additions to Riparian Land: Extending the Doctrine of Accretion*, 14 Ariz. L. Rev. 315, 325–326 (1972); 5A Thompson *on Real Property* (1957 Replacement) § 2652, p. 614.

[10] See Peck and Richardson, *Hydrology and Climatology of the Great Salt Lake*, in Guidebook to the Geology of Utah, No. 20, Figure 4.

other period has it fallen as low as it did in 1960–1967. In the context of the average yearly fluctuation in the lake level of well under 1 foot, the long run changes of as much as 15 feet clearly indicate the applicability of the doctrine of reliction, rather than the exception for temporary or seasonal changes discussed in point I, *supra*.

Furthermore, the cases cited by the Special Master are inapposite. *Sapp* v. *Frazier*, 51 La. Ann. 1718, 26 So. 378 (1899), is only an elaboration of the rule that a boundary does not follow seasonal changes. As the Lousiana court explained:

> But the mere temporary subsidence of the waters, occasioned by the seasons, coming in the winter and staying through the spring, going in the summer and gone through the autumn, does not constitute dereliction, in the sense of an addition to the contiguous lands, susceptible of private ownership as riparian rights. There is no "increase of the land" in such case. The reliction must be from the waters in their usual state. Where it periodically rises up over the land, and then recedes, there is no reliction. [26 So. 380.]

Thus, in the context of a seasonal change, the Louisiana court continued:

> There has been no permanent uncovering of the waters, no laying bare of the bottom by the retirement of the waters to stay, and no shrinking back of the waters below the usual water-mark, and the remaining of the same at the point of shrinkage. It is true its bed, or a large part of it, becomes measurably dry, and

> remains so, more or less, for four or five months in the year. But it becomes covered again with water, which remains over it six or seven months, and in turn runs off, leaving the bed exposed; and this successive recurrence of conditions has been going on without any change from time immemorial. [26 So. 381.]

Likewise, *State* v. *Longyear Holding Co.*, 224 Minn. 451, 29 N.W. 2d 657 (1947), does not support the Special Master's position. That case involved the temporary drainage of a lake to allow iron mining on the bottom, and the lake was to be refilled when the operation was completed—obviously a highly temporary change. And *Fontenelle* v. *Omaha Tribe of Nebraska*, 298 F. Supp. 855 (D. Neb.), affirmed, 430 F. 2d 143 (C.A. 8), does not pertain at all to temporary fluctuations.

III. THE BOUNDARY OF THE GREAT SALT LAKE HAS MOVED BY A PROCESS OF RELICTION, SINCE ITS MOVEMENTS HAVE BEEN GRADUAL AND IMPERCEPTIBLE

We thus return to the question presented by the established federal common law of reliction: Has the boundary of the Great Salt Lake, defined by the "average yearly stage," moved by a gradual and imperceptible process? The answer, on this record, is "Yes." As shown *supra*, pp. 12–13, the most extreme annual movement of the boundary at the flattest (and thus most extreme) point on the shore was only 15 inches per hour. That rate of movement is gradual and imperceptible. It is equivalent to the movement of the minute hand on a clock with a 2½

inch radius (about the size of a home alarm clock). The perceptible movement of the second hand on a standard government wall clock is 80 times more rapid than the most extreme lake movement. And the lake movement is more than 30 percent slower than the speed of the slowest known snail (Guiness Book of World Records, 1974 ed., p. 101).

As noted, 15 inches per hour is the most rapid movement of any part of the boundary of the Great Salt Lake that has occurred in historical times. A better standard for judging the Lake's fluctuation is the average movement over a period of years, measured around the whole perimeter of the Lake. That movement is about 1½ inches per hour, far below the threshold of human perception. Should one choose to follow the Special Master's suggestion (R. 15–16; Findings of Fact 14–15) and consider the movement in an average year along areas of flat shorelands, that movement would be substantially less than 15 inches per hour. Since the average lake level change of .69 feet (Ex. D-3) is about 35 percent of the most extreme change in lake level, the rate of movement in an average year at the flattest point along the shore would be about 5 to 6 inches per hour. The Special Master therefore erred in declaring (R. 20, 30) that such a movement cannot be found to be imperceptible.

Moreover, the law requires a specific finding that the movement was perceptible in order for reliction not to apply. A common law presumption favoring an ambulatory boundary is expressed in the rule that if an avulsion is not shown, an accretion will be pre-

sumed. Lundquist, *supra*, 14 Ariz. L. Rev. at 325 n. 54; 65 C.J.S. *Navigable Waters* § 86c; 5A Thompson, *supra*, § 2561 n. 88. Utah does not appear to contend that an avulsion has taken place in the change in boundary between statehood and the date of the quitclaim deed, and the Special Master specifically notes that none is involved (R. 10).

IV. ANALYSIS OF THE PARTIES' INTERESTS IN THE GREAT SALT LAKE UP TO THE TIME OF THE GREAT SALT LAKE LANDS ACT REQUIRES THE APPLICATION OF THE DOCTRINE OF RELICTION

The Special Master correctly construed *Bonelli*, *supra*, 414 U.S. at 322–323, 328–329, 331, as requiring an analysis of the "public benefit to be protected" (*id.* at 323) in fixing the boundary (R. 21, 26). That analysis, however, indicates that the application of the doctrine of reliction is completely consistent with the public benefit considered in *Bonelli*. Throughout that opinion, this Court indicated that the public benefit to be protected was the State's interest in safeguarding navigation or related activities. Thus, in *Bonelli*, the State was denied title to exposed lands because the channelization project was not "undertaken to give the State title to the subject lands for the protection of navigation or related public goals" (*Bonelli*, *supra*, at 323). And the Court noted that the State's claim must fail, because "depriving petitioner of the subject land is [not] necessary to any navigational or related purpose" (*id.* at 331).

Similarly, in the present case, the general applicability of the reliction doctrine was necessary for the preservation of Utah's interest in navigation on the

Lake, up to the date of the Act. Indeed, the Special Master, in Conclusion of Law 4 (R. 32), in fact applied the doctrine of reliction to the reinundation which occurred since June 15, 1967, as follows:

> The public benefit of Utah which is entitled to protection has accompanied the reinundation of the bed of the Lake to approximately its extent at statehood.

And this would undoubtedly be correct, were it not for the passage of the Great Salt Lake Lands Act. By accepting that Act, Utah agreed to waive its right to control the Lake for navigational and related purposes to the extent that the Lake might rise above the meanderline, in return for the benefits accruing from a fixed boundary line.

Thus, Representative David S. King, of Utah, at the Febraary 1966 hearings on the Great Salt Lake Lands Act, stated (Ex. P–22, p. 112):

> In that event [the return of the Lake to statehood level] the State of Utah would lose and it is perfectly willing to assume that risk. In other words, in this situation certainty is more important to all parties than the matter of gambling over the gain or loss of new territory. What is most important is that we get the matter settled and the State of Utah would be perfectly willing to hazard the risk of its losing acreage if the water should exceed the meanderline * * *. [Hearings Before the Subcommittee on Public Lands of the Committee on Interior and Insular Affairs, on H.R. 1791 and H.R. 6267, Great Salt Lake Relicted Lands, 89th Cong., 2d Sess., at 112 (1966).]

Contrary to the Master's statement that Congress could have intended Utah to pay for relicted lands only if the 1967 lake level was reasonably stable (R. 26), it was specifically contemplated that the Lake would continue to fluctuate. The Act itself, in Sections 2 and 4, recognizes the possibility of Lake movements both above and below the meanderline. Senator Bennett of Utah specifically stated in floor debate that within 10 years the Lake would rise enough to inundate some 350,000 acres (112 Cong. Rec. 5008) and later stated that he certainly hoped that the area was entering a wet period which would cause the Lake to rise (112 Cong. Rec. 11047). And of course Rep. King's testimony cited above supports the same conclusion. All of Utah's federal legislators supported the final legislation embodying this understanding. See 112 Cong. Rec. 5005, 7505, 7508, 11078–11081.

What we have here, realistically, is a gamble (although a low-risk gamble, as explained *infra*) by Utah that did not pay off. Utah's position has always been that reliction does not apply to the Great Salt Lake and that the State therefore owns all land under water at statehood, which Utah equates with the surveyed meanderline. The State's representatives apparently believed, however, that with the Lake at its very low level of the mid-1960's, a stable boundary and certainty of land titles were more important than a possible victory in litigation on the reliction question. Thus, the Great Salt Lake Lands Act was adopted. If the Lake had fallen further, Utah would have become the free owner of land which otherwise might

have been lost under the doctrine of reliction. Since the Lake has instead risen, Utah may now be required to pay for land which it would have owned without payment, except for the Act. But the outcome of that gamble should not affect the legal determination as to the applicability of the doctrine of reliction up to the date of the quitclaim deed. And as shown above, both the general principles of the doctrine of reliction and Utah's interest in control of navigation required the doctrine to apply until it was made inapplicable by contract.

Moreover, under the Act the ultimate choice lies with Utah. Should our contention prevail in this Court, the State may choose to pay the United States for the lands conveyed in 1967 and thus obtain the fixed boundary thought to be important when the Act was passed, or it may choose instead to retain its rights under the doctrine of reliction. If the State simply refuses to pay the amount ultimately determined to be due to the United States, the conveyance by the United States will be voided and the doctrine of reliction will continue to apply. Great Salt Lake Lands Act, Sec. 5(b), 80 Stat. 193. In that event, Utah would be the owner, without payment, of the lands now beneath the waters of the Great Salt Lake, although it would continue to run the risk of loss in the event of a future fall in the lake.

CONCLUSION

It is therefore respectfully submitted that the United States should be confirmed as the owner, as of June 15, 1967, of such lands adjacent to United States

property as had been exposed by the recession of the ordinary high water mark of the Great Salt Lake between the date of statehood, January 4, 1896, and June 15, 1967.

ROBERT H. BORK,
Solicitor General.
WALLACE H. JOHNSON,
Assistant Attorney General.
DANNY J. BOGGS,
Assistant to the Solicitor General.
JOHN E. LINDSKOLD,
Attorney.

MAY 1974.

U.S. GOVERNMENT PRINTING OFFICE: 1974